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REPORT  
ON THE  
CHOLERA IN PARIS.

PUBLISHED BY  
AUTHORITY OF THE FRENCH GOVERNMENT.

TRANSLATED FROM THE ORIGINAL,  
AND  
PRINTED BY RECOMMENDATION OF THE BOARD OF HEALTH AND THE  
ACADEMY OF MEDICINE OF THE CITY OF NEW-YORK.

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NEW-YORK :  
SAMUEL S. & WILLIAM WOOD, 261 PEARL-STREET.  
1849.

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# P R E F A C E

O F T H E T R A N S L A T O R .

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ABOUT eight years have elapsed, since M. Alexandre Vattemare, a native of France, first proposed to the consideration of the American public, the adoption of a system of international exchange with Europe, by which, whatever was valuable in science, or curious in art, might, as far as practicable, be made the joint property of both continents. This philanthropic project of promoting the growth of useful knowledge, and thus increasing the sum of human happiness, was too much in accordance with republican principles not to be received here with favor and applause. The Federal Government, the authorities of the several States, City Corporations, and the PEOPLE in general, united in giving to M. Vattemare's system their countenance and support, and its happy results are already beginning to be felt in the transmission of many valuable scientific and other works from Europe to America, and from America to Europe.

Among the number of books presented by the City of Paris to the Corporation of New York, it was my fortune to discover the "Report on Cholera" made by direction of

the French government in 1832, and a translation of which is now offered to the public. Generous minds will understand and forgive in me the expression of a feeling of exultation, that one Frenchman should have been the originator of a scheme so beneficial to humanity as that of International Exchange, and another, the first to prove its utility by giving to that scheme a *practical* and more extended application. Justice, however, requires me to state, that so soon as I brought the existence of this Report to the knowledge of the public authorities, the advantage to be derived from its translation and publication was at once felt and admitted by them, and every facility afforded me to undertake and complete the task. Among those whose influence was most active, I may name his Honor the Mayor, W. F. Havemeyer; Timothy R. Hibbard, M.D., Chairman of the Sanatory Committee of the Board of Health; Messrs. Theo. R. De Forest, Alderman of the First Ward; Morris Franklin, President of the Board of Aldermen; Linus W. Stevens, Chairman of the Committee of Arts and Sciences; D. T. Valentine, Clerk of the Common Council; Messrs. J. B. Beck, M.D., J. M. Smith, M.D., and S. W. Moore, M.D., Medical Counsel; and Mr. R. L. Morris, Health Commissioner. To Dr. Valentine Mott, President of the Academy of Medicine, I am also under great obligations for his attentive examination of the manuscript translation, and (when convinced of its importance) for bringing the subject of the proposed publication before the Academy of Medicine, and lending to it the sanction of his favorable opinion. The Academy, with that prudence which should always characterize public bodies, referred the translated Report to a select Committee, and I am happy to add, that this Committee, composed of learned and able professional men, has also approved of my labors.

It may not be amiss to say a few words respecting the manner in which the eminent individuals appointed by the French Government, in 1832, to investigate the causes and

examine the progress of Cholera, executed their difficult task. Avoiding abstract theories, they confined their attention to the close examination of the circumstances under which the disease first manifested its presence, and which accompanied its march; they did not make themselves the advocates of any peculiar doctrines relative to *contagion* or *non-contagion*, nor did they venture to offer other than the most certain and legitimate deductions, even from the facts observed and recorded by themselves. They seem to have considered, rightly, that their principal duty was, to note the various phenomena attending the appearance, increase, diminution, and gradual extinction of the pestilence, or, in other words, to collect and arrange materials from which medical science and art might, at a future day, form a clear and conclusive judgment.

The intelligent reader will do justice to the minuteness and strict exactness of their investigations. The geographical position, and geological formation of the district of the Seine; the number and size of the streams by which it is watered; the extent of woods, or of roads, which diversify or traverse its surface in every direction; the dryness or humidity of the atmosphere; the nature of the winds usually prevailing at different seasons;—each and all of these things became subjects of research, with the view of ascertaining how far, and in what manner, their influence was exercised on the pestilence which then raged. From these subjects, the members of the Committee necessarily passed to the consideration of others of equal, if not greater importance: in what respect density of population, or the neighborhood of hospitals, slaughter-houses, burying-grounds, manufactories, &c., operated on the increase or diminution of the disease; how far it was modified by the ages, habits, pursuits, or trades of individuals, and lastly, what means were employed by the Government and its agents to arrest the progress of Cholera.

This brief summary of what was done by the French

Investigating Committee, can give the reader but an imperfect conception of the extent and value of its labors. It is only by a perusal of the Report itself, that we can learn to do justice to the patient industry, close research, varied science, and clear judgment manifested in the execution of an arduous, disagreeable, but necessary duty, the ultimate effect of which cannot but prove highly beneficial to suffering humanity.

## CORRESPONDENCE.

*To the Honorable W. F. HAVEMEYER, Mayor of the City of New-York.*

SIR:—I had the honor this morning to call your attention to the valuable statistics, compiled with great care and ability under the direction of the Authorities in Paris during the years 1832–33, of the nature, progress, influence, and course of the Cholera in that city, upon the locality, habitations, trades, occupations, positions, ages, and professions of the inhabitants; as well also as in the prisons, hospitals, houses of refuge, and barracks.

This important document being among M. Vattemare's collection, appears to have been overlooked by our Public Authorities.

I should be happy to be instrumental in bringing it before the public.

I am, with great respect,

Your Honor's humble servant,

P. BARTHÉLEMY.

*New-York, January 9, 1849.*

In answer to the above, the Mayor gave me a letter to the Chairman of the Committee on Arts and Sciences, Alderman L. W. Stevens, in whose custody the documents of international exchange were placed, in order that I might have free access to the book alluded to. It was readily and kindly granted by that gentleman. When the translation was done, I addressed the following letter to

*The Chairman and Members of the Sanatory Committee of New-York.*

GENTLEMEN:—I have the honor to lay before you the translation of a Report, drawn up by a Committee appointed in the year

1832 by the Authorities in Paris, to investigate the origin and progress of Cholera in the Department of the Seine, and its dependencies.

This Committee, composed of men eminent throughout Europe for professional knowledge and experience, entered diligently on the execution of its duties. Rejecting all theories, it limited its labors to the observation of *facts* and the statement of such conclusions as facts alone would warrant. A glance at the table of chapters will suffice to show with what careful minuteness its investigations were conducted, and under how many different aspects was examined that frightful pestilence which then ravaged Asia, Europe, and America, and now threatens this country with another visitation.

My manuscript translation has already been submitted to several eminent members of the Faculty in this city, who have expressed a favorable opinion of its merits. Should you, after due reflection, concur with them in the belief that its publication, at this juncture, would be a measure of utility, I would respectfully call your attention to the following propositions:

1stly. That the Corporation subscribe for a given number of copies, at a stated price, leaving me to bear the expense of publication; or,

2dly. That it purchase the right of printing at its own charge such a number of copies as may be deemed necessary, reserving to me the privilege of satisfying whatever additional demand for the work may exist, in this and other cities.

I have the honor to be,

With high consideration and respect,

Your obedient servant,

P. BARTHÉLEMY.

New-York, March 27, 1849.

At a meeting of the Sanatory Committee of the Board of Health, held at the Mayor's Office, April 2d, 1849, the following resolution was adopted:

*Resolved*, That the "Board of Health" be requested to subscribe two hundred and fifty dollars, and receive that number of copies therefor of a translation of the History of Cholera as it

occurred in Paris in 1832, made by order of the French Government, and now translated from books presented by M. Vattermare to the Corporation of this city, and preserved in the archives of our city in original form.

TIMOTHY R. HIBBARD,	} <i>Sanatory Committee of Board of Health.</i>
THEO. R. DE FOREST,	
WM. ADAMS,	
NIEL GRAY,	
C. CROLIUS,	

I hereby certify that the above is a correct transcript from the original on file.

JOHN H. CHAMBERS, *Secretary.*

April 21, 1849.

At the same time, the manuscript had been submitted to the New-York Academy of Medicine for encouragement and recommendation. Its honorable president, Dr. Valentine Mott, being convinced after a perusal of the work, that its publication would prove of general utility, undertook, in the kindest manner, to bring it to the special notice of the Academy, and proposed the appointment of a committee instructed to examine and report upon its merits. The proposal was warmly seconded by Mr. John L. Vandervoort, Secretary of the Academy, whose friendly assistance I take pleasure in thus acknowledging, and at once adopted.

At an extra meeting of the Academy convened on the 18th of April, the following paper was read :

The Committee appointed by the Academy of Medicine at their meeting on the 4th of April, 1849, to examine and report upon a manuscript document submitted to them,

### REPORT :

That said document bears the title of "History of the Cholera in Paris in 1832, prepared by order of the French Government," and is a translation of portions of a work in the possession of the City Authorities, entitled "Report on the Progress and Effects of the Cholera Morbus in Paris and the Rural Districts of the De-



partment of the Seine," by a Commission appointed with the approbation of the Minister of Commerce and Public Works and the Prefects of the Seine and of Police.

The Commission consisted of ten members, belonging to various learned and scientific bodies, and holding important official stations.

The Committee have carefully read the document and compared it with the original REPORT, and though the high sanction this Report has already received precludes the necessity of their passing judgment upon its merits, they may be permitted to say that it evinces the most elaborate research and exactness in all its details, and will be esteemed of lasting value among the stores of science on account of the important materials it furnishes as well as the eminent scientific ability which characterizes it.

All questions relating to the causes of Cholera and its mode of propagation had been studiously excluded from the Report; and as it was intended to enlighten the public generally, as well as the profession, all technical terms have been avoided.

While such a Report must necessarily relate to many subjects of purely local interest, there are also questions treated of that are common to all great cities, the investigation and discussion of which are of universal interest.

In the document under consideration, the translator has had reference to this distinction in his selections; and though the Committee have found nothing omitted that would be of general interest, they are of opinion that still more might have been excluded that is purely of local interest, and that without injury to the general value of the translation.

In conclusion, the Committee are further of opinion that the translation is executed in a creditable manner, and for the most part, faithfully renders the meaning of the original Report.

GURDON BUCK, M.D., *Chairman.*

WILLIAM P. BUEL, M.D.

SAMUEL B. PHILLIPS, M.D.

JAMES C. PAUL, M.D.

JACKSON BOLTON, M.D.

A motion being made to adopt the above Report, it was carried unanimously.



*Extracts of a Report of the Sanatory Committee, which was adopted at a meeting of the Board of Health, held May 4th, 1849.*

Your Committee have received a communication from Mr. P. Barthélemy on the subject of a translation from French works of Cholera as it existed in France in the years 1832 and '4. It is Mr. Barthélemy's intention to publish the same if encouraged. And your Committee, believing that the publication of such a valuable work at this time would be productive of beneficial results, and would no doubt be the means of throwing much important light upon the subject of that much dreaded disease, they have concluded to recommend for adoption the following resolution.

*Resolved*, That the Board of Health be requested to subscribe for two hundred and fifty copies of a translation by P. Barthélemy, of the History of Cholera as it occurred in Paris in the years 1832 and '4, made by order of the French Government; the said translation being taken from the books presented to the Corporation of this city by the authorities of the city of Paris and now preserved in the archives of our city.

D. T. VALENTINE, *Clerk*



CHOLERA IN PARIS.

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## MEMBERS OF THE COMMITTEE.

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BENOISTON DE CHATEAUNEUF,  
*Member of the Academy of Moral and Political Sciences.*

CHEVALIER,  
*Chemist, Member of the Board of Salubrity and of the Central Committee.*

DEVAUX,  
*Auditor to the Council of State.*

MILLOT,  
*Of the Polytechnical School.*

2. J. B. PARENT DUCHATELET, M. D.,  
*Physician of the Hospitals, Member of the Board, and of the Central Committee of Salubrity.*

PETIT (DE MAURIENNE), M. D.,  
*Physician of the Hospitals, Member of the Board, and of the Central Committee of Salubrity.*

PONTONNIER,  
*Chief of the First Division of the Prefecture of the Department.*

TREBUCHET,  
*Lawyer, Chief of the Bureau of Health, at the Prefecture of Police, and Member of the Central Committee of Salubrity.*

VILLERME, M. D.,  
*Member of the Academy of Moral and Political Sciences, and Member of the Central Committee of Salubrity.*

VILLOT,  
*Chief of the Etat-Civil and of Statistics, at the Prefecture of the Department of the Seine.*

## INTRODUCTION.

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WHEN a great city is visited by some terrible calamity, such as a famine, a pestilence, or an epidemic, terror is the first sentiment awakened. One thought, one object fills every mind—to escape from the evil which threatens. Those whose position, and whose fortune permit, hastily remove; while those to whom flight is impossible, and they are the greater number, yielding to a fatal despondency, regard themselves as already doomed to immediate death. Given up to continual apprehensions, they are wretched more from the calamities their imagination creates, than from the scourge they dread—a scourge whose visitations they perhaps will escape. Some, however, less accessible to fear, uniting with the authorities, aid them with advice and information, assist in tranquillizing the

public mind, and in taking such measures as the occasion demands. At such times every mind is engrossed by one absorbing interest.

But when the violence of the disease has abated, when fear has subsided, when no longer under the influence of immediate impressions and more sure in our judgment, we recur to what has passed, and direct our attention to the examination of circumstances and localities ; we investigate the extent of the ravages of the disease, and we ascertain those still greater ravages which, without the precautions adopted and the obstacles opposed, it might have made : we note all the circumstances, we collect all the facts ; and in short, endeavor to obtain such a precise account of the character and progress of the pestilence, as will serve, should it suddenly reappear, to enlighten the present by experience of the past ; or to instruct us for the future, should the disease make its appearance only at long intervals.

Such an account, the Commission charged with the investigation of the facts relating to the history of the Cholera in Paris, and the Department of the Seine, has been called upon to render, and now presents.

Placed in the midst of the capital, and in a city regarded by Europe as its intellectual centre, the



Commission has not concealed from itself to what an extent that position rendered the task imposed upon it at once honorable and difficult. The materials for the work were immense, the details infinite, a selection was often embarrassing. Many facts had been exaggerated by fear; the distress which accompanies the first moments of attack, had allowed many others to escape unnoticed. To ascertain them was impossible; much research, inquiry, and verification have been required. And if the Commission cannot venture to flatter itself that, among so many investigations, it has always been enabled to ascertain the truth and incorporate it with every page of this report, it can at least bear testimony, that it has done all in its power to attain the highest degree of accuracy possible, nor does it hesitate to assume the responsibility of its statements.

But first, it desires to express its obligations to those estimable citizens who have assisted it by their efforts, their information, and often by their personal exertions. The Commission subjoins the names of those whose labors have been so useful. Their modesty will not be offended, for it is less an eulogium upon them, than a homage to truth, to acknowledge the valuable assistance we have derived from their zeal, as well as from that of the

members of the Sanatory Commissions of the arrondissements and districts.

The Commission has thought it proper to present a map of each district of Paris, more regular and accurate than any hitherto published.\* It has also thought it necessary to annex to this report many explanatory tables ; their great number, the difficulty of collecting their varied materials, and of compressing them into a small compass, without impairing their interest, or detracting from their clearness, has demanded long and irksome labor, and the services of an experienced editor. M. Villot† has kindly assumed this task, and that part of the report has become, in his hands, one of its most important and valuable portions. The Commission hopes that these tables, addressing themselves to the eye, will render the comprehension of the facts more easy, and the narrative more attractive. Obligated to enter into a multitude of necessary but uninviting details, they have sought to supply by accuracy and clearness, that interest which the subject-matter may not itself always possess.

\* In this edition, intended for publication in a foreign country, the maps have been suppressed, with the exception of two, which are of much general interest, as also the table of names above alluded to.—*Note of the Translator.*

† A member of the Commission.

The Commission will esteem itself happy, if it shall be thought not to have been unequal to its subject, and if the approbation bestowed upon this work shall respond to its efforts to merit it.



# R E P O R T .

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## CHAPTER I.

### PRECAUTIONS TAKEN BY THE ADMINISTRATION PREVIOUS TO THE INVASION OF THE CHOLERA.

FRANCE and its capital have been visited by a fearful pestilence. For centuries its existence and ravages were confined to the place of its origin, near the marshy mouths of the Ganges in India. Suddenly, leaping beyond their narrow limit, it ascended in 1817 to Jessore, to Malacca, and to Java, destroying four hundred thousand inhabitants out of a population of four millions. Next it visited Benâres and Bornéo, and swept through Bengal from Calcutta to Bombay (1818). Thence, in the following year, it spread to the Mollucas and the Isles of France and Bourbon, and, in 1820, passed

through the Burman empire, and desolated China from Canton to Pekin.

Soon after, turning to the north and west, it reached Persia in 1821, and spread from thence to Bassorah and Bagdad in Arabia. Two years subsequently, it was seen and felt at the base of the mountains of Caucasus on the Caspian Sea, and in 1826, appeared in Siberia, near the Polar region. Thence it penetrated to the heart of the Russian empire, and numberless victims attested its presence and power at Petersburg and Moscow, in 1830.

The following year it successively invaded Egypt in Africa, and Poland, Gallicia, Austria, Bohemia, Hungary, and Prussia, in Europe. Continuing its fearful progress, it crossed the seas and showed itself in England, whence, leaping the Channel, it broke out at Calais on the 15th of March, 1831, and soon after reached Paris, having, in that giant-journey, run over more than three millions of square leagues, covering that immense space with human graves.

Efforts are every where made to combat it, and every where in vain. It scoffs at the barriers opposed to its progress, as well as the remedies resorted to against its malignity. It comes without any known cause; it disappears without any revealed

reason. The bodies of its victims are in vain examined ;—death is interrogated ;—death betrays nothing ;—it does not bear in its bosom the secret of the plague ; it departs, carrying with it the dark mystery, and leaving dreadful gaps in the midst of the population which it has laid waste, and the fear of seeing it again to succeed the fear inspired by its sight.

The most exact study, the closest investigation, have not, up to this day, discovered any thing upon that fatal disease, the cause as well as the nature of which remain alike unknown. Every conjecture, every system, has been successively admitted and rejected : art has confessed its impotency.

The Commission does not pretend to have been more fortunate than art. But having in its hands an immense quantity of facts gathered from every part of the capital and department, it has thought, that by classifying them with method, by comparing them with care, science would perhaps find an unexpected light which might suddenly dissipate the profound darkness it has hitherto vainly attempted to dispel. That hope was too flattering not to be seized upon by the Commission : it has sustained its zeal, and directed its labor.

At the first news of the appearance of the

cholera in London, it was easy to foresee that it would invade Paris, although no one could exactly specify the time. From that moment, the Administration thought it its duty to take in advance all the precautions required by the circumstances. From the 21st July, 1831, M. Le Comte de Bondy, then Prefect of the Department, wrote to the General Board of the Hospices a letter containing several questions, for the solution of which the Board appointed, on the 26th of July, two committees, one of administration, composed of the Comte de Chaptal, Baron Camet de la Bonardiére, and Cochin, to whom were added Messrs. Desportes and Jourdan, administrators of the Hospitals; the other Sanatory, of which Baron Portal, Anthony Dubois, M.D., Lisfranc, M.D., Chomel, M.D., Cruveilhier, M.D., Parent-Duchâtelet, M.D., and Ganneron de Mussy, were selected members.

This last committee proposed (the 19th September, 1831) to establish in the districts the most remote from the centre, three or four hospitals exclusively devoted to the treatment of patients attacked by cholera. They indicated for that special service the hospitals Beaujon, Saint-Louis, Saint-Antoine, and Cochin. They, in the mean time, suggested the formation of hospices at Montmartre and at the Mont-Valérien, to receive the convalescent.



They recommended, likewise, the prohibition, while the epidemic prevailed, of all large assemblies of men; of the sale of old clothes and of cast-off clothing; the removal of the markets to the exterior boulevards, not far from the barriers; to put outside of all the houses where there should be a cholera patient a particular and uniform sign, to remain for eight days after the cessation of the disease.

They added moreover to these suggestions, advice full of wisdom and charity for the poor and the needy, to whom they proposed to distribute clothing, and every day a small quantity of wine, beer, and brandy.

The Administration, without entirely rejecting the opinion of the committee upon the nature of the disease, which all the proposed measures tended to represent as eminently contagious, thought proper, however, not to adopt them fully. To the regulations for public salubrity already in force, it contented itself with adding (and it seemed all that was required) some new ones, the execution of which was to be rigidly enforced.

Persuaded moreover, and with reason, that it could not see and do all itself, it resolved to call a certain number of citizens, accustomed by profession or by taste to be concerned in matters of

public utility, in order to profit by their advice whenever needed, and to direct at the same time the measures which necessity might require in the expected emergency. They felt, besides, that such committees should be composed of men learned, and sufficiently known to their fellow-citizens to be listened to; that they should be invested with a certain authority; lastly, that they were to be numerous enough to perform all the duties required.

In order to accomplish this triple object, the Prefect of Police jointly with the Prefect of the Department, made, on the 20th of August, 1831, a decree, creating at the same time, a Central Board of Salubrity, composed of 43 members; and twelve Ward Committees charged with the duty of corresponding with the Board and of communicating with other committees appointed in each of the 48 districts of the city, and of the rural wards of the department.

Several physicians, chemists, apothecaries of established reputation, together with some respectable citizens presented by the Aldermen, were designated to fill those committees, and in order that they might not be in need of useful or necessary information, they were to be attended by city inspectors and commissaries of police.

The District Committees were more especially

instructed to visit private dwellings ; to ascertain the condition of sinks, of gutters, of cesspools, cisterns, &c. ; to inspect the institutions, the school-houses, the wet-nurse establishments, the houses of weaning and of health ; establishments for keeping horses, dogs, hogs, rabbits, poultry, pigeons, &c. They were also to pay attention to the lodging houses, the tanneries, the baths, the gut-workers, the rag-gatherers ; lastly to the shops of all kinds, liable to become nuisances by bad management or the stench they create.

The Ward Committees, intermediate between the Board and the District Committees, had the duties assigned them of receiving the reports of the latter, to examine them, to verify their exactness whenever they thought proper ; to make extracts of them to be sent to the Central Board. They had also to assist by their advice and support by their approbation the zeal and efforts of the District Committees.

Lastly, the Central Board, adding to its own information the knowledge of the facts communicated, was to enlighten the Administration, and to propose the adoption of new measures, if needed, or the modification of old ones, if considered sufficient. The Board reserved for itself the inspection of the great public establishments of the capital,

excepting the churches and temples of the various religious denominations, because it was of opinion that these did not require any measures in regard to salubrity.

As to other places of public resort, such as coffee-houses, smoking-houses, billiard saloons, the Board thought it necessary merely to recommend them to the special care of the District Committees, under which they naturally were placed. The zeal with which the honorable citizens composing these committees sought to justify the confidence reposed in them is a proof, that it would have been difficult to make a better choice.

In fact, these generous citizens, new ediles created by necessity, divided amongst themselves all the public places situated within the limits of their respective districts, and in a few days they had visited the markets, the theatres, the colleges, the school-houses, the boarding-houses, the barracks, the guard-houses, the coffee-houses, reading-rooms, burying-grounds; they carefully registered all the causes of insalubrity which they noticed, and reported them to the Administration, who gave the necessary orders to have them removed.

It would be impossible to mention here all the work simultaneously accomplished in the 48 districts of Paris. The Board will select, however, as an

instance, the district of the Luxembourg. To say what has been done by the members of the Sanatory Committee of that district, is to say what has been done in every other. The same devotedness produced every where the same efforts and the same good result.

In less than two months 924 houses, public as well as private, which compose the district of the Luxembourg, were visited, and 402 noticed as insalubrious, either on account of the bad condition of the privies, the wells, the cesspools, the gutters, or the pavements, or on account of the stagnation of rain or waste water, the crowding together of domestic animals, or the heaping of ordure or other filth.

These domiciliary visits caused more than 400 letters to be written to different householders, and more than 200 reports to the authorities ; but above all, they revealed how numerous are yet in Paris the causes of infection and insalubrity. The Commission regrets that this report is destined too often to furnish such proof.

All these measures concerned only the cleansing of dwellings ; there were other precautions to adopt for the health of the inhabitants.

The Commission established in every district Offices of Assistance or *Medical Stations*, in which

a physician, an apothecary, and a certain number of medical students, and male and female nurses, were to be ready night and day to attend the sick. These stations were provided with every thing necessary, such as medicines, bedding, blankets, hand-barrows, &c., under the immediate direction of the Alderman, whose duty it was to give 24 hours' notice in advance to the physicians and apothecaries designated for that service.

Lastly, the Central Board published (the 25th of November, 1831) a notice respecting the diet to be adopted as a preservative against cholera, and the treatment to be followed as soon as the first symptoms became manifest. It recommended cleanliness in clothing and houses; abstemiousness in food, moderation in pleasures; and above all, cautioned the citizens against the pretended infallible remedies vaunted every day in the newspapers by quacks, or in handbills posted over the city.

The Administration of the Hospitals did not on its part remain idle; it prepared new receptacles for the sick attacked by the epidemic; purified the old ones; increased the number of students and of nurses; and in order not to neglect any precaution that prudence dictated, ordered the suspension of studies in anatomy.

Such have been the measures taken by the

Administration against the epidemic threatening Paris. It is useless to say, that the greatest part of those méasures were intended alike for the Capital and the Department.

Before proceeding further, it is necessary to give some brief particulars of the actual physical state of the one and of the other.

## CHAPTER II.

SKETCH OF THE PHYSICAL AND SANATORY STATE OF  
THE CAPITAL, AT THE TIME OF THE INVASION.

SITUATED in the middle of a region formerly known under the name of *Island of France*, at  $2^{\circ} 25'$  east of the meridian of the Island of Iron, and 0 of that of Paris, and at  $48^{\circ} 50'$  of north latitude, the Department of the Seine is surrounded on all sides by that of Seine and Oise. Its elevation above the level of the sea, is 24 metres,\* 50 centimeters; its shape is nearly that of a great circle, of which the communes of Pierrefitte, Epinay, Colombes, Nanterre, Surène, Le Plessis-Piquet, Antony and Rungis, form the western half from north to south, and of which the eastern half, stretching from south to north, is indicated by the communes of Orly, Bonneuil, Champigny, Brie-sur-marne, Fontenay-sous-bois, Villemomble, Bondy, le Bourget, Dugny and Pierrefitte.

\* The league is equivalent to 4000 metres, or 3 miles, and the metre to 37 inches, and a centimetre the hundredth part of a metre.



The diameter of this circumference, of which Paris occupies the centre, does not extend over 30,000 metres ( $7\frac{1}{2}$  leagues) from east to west, and from north to south, or, in other words from Champaign to Nanterre, and from Pierrefitte to Rungis. It has 94,000 metres (23 leagues) of development, and its whole surface is of 475,000,000 metres, or 47,500 hectares.\*

The Department of the Seine presents therefore three peculiarities:—1st. It is inclosed entirely within another; 2d, it is the smallest; and 3d, the most populous, after the Department of the North, of all the 85 Departments which divide continental France.†

Its soil is the same as that of the vast basin of the Seine, of which it constitutes a part. On the right shore of the river, from Charenton to Creteil, and on its left shore, from Issy to Montrouge, to Surène, to Colombes, it is composed of marl, of chalk, and chiefly of building-stone (coarse sea calcareous), enormous quarries of which extend beneath the villages of Conflans, Thyais, Villejuif, Bagneux, Chatillon, Clamart, Montrouge, then stretch, but in lesser masses, in the direction of the Seine, penetrate under the city from Poliveau-street

\* A hectare is equivalent to about 3 metres.

† See Map.

on one side, as far as Vaugirard on the other, and spread themselves beneath the Garden of Plants, the School of Medicine, the Church of Saint-Sulpice, and Sèvres and Colombier streets.

On both banks of the river are found pebble-stones, and made-grounds, which bound the plains of the Sablons and of Boulogne, whilst from north to east rise the hills of Montmartre, Belleville, and Menilmontant, entirely composed of gypsum or plaster. Thus by a fortunate disposition of the soil, Paris finds at its gates, on the south, the stones necessary for construction, and on the north, the plaster required as cement.

Calcareous flints (Champigny); red sand, and free-stone (Fontenay-aux-roses, Plessis-Piquet); clay (valley of Bièvre); salted marl (Barrière of Reuilly, Martyrs-street); and lastly, soft marshy earth (Plains of Saint-Denis, and Vincennes), complete the abridged enumeration of the chief component parts of the soil of the Department.

To have a precise idea of its configuration, or of the relief it presents, it is enough to ascend one of the most elevated edifices of Paris, such as the towers of Notre-Dame, or the cupola of the Pantheon: from thence the eye discovers a large valley bounded on the west and south by a circle of high hills; they are those of Saint-Cloud, Meudon, Bag-

neux, Sceaux, and Villejuif. The first, decline abruptly towards the banks of the Seine ; the other, or the hills of Sceaux and Villejuif, reach as far as the flat grounds of Bicêtre, of Gentilly, of Montrouge, which themselves terminate at the west, in the plains of Vaugirard and Grenelle, and at the south within the limits of Paris, where they disappear on the left bank of the Seine by an inclined plane, that rises again only to form Mont-Sainte-Généviève : for one cannot consider as worthy of attention the hillocks of Sainte-Hyacinth-street, nor of the Estrapade, any more than those of the Charity. The researches of M. Girard upon the waters of Paris, have demonstrated, that those slight elevations of earth were but old common sewers, and owe their present existence to the rubbish and gravel therein deposited.

On the north, other hills, such as those of Fontenay-sous-bois, of Montreuil, of Pierrefitte, and nearer the city, those of Menilmontant, of Belleville, of Saint-Chaumont, of Courbevoie, of Mont-Valérien, bound the horizon ; at their feet lie the plains of Montreuil, of Virtues, of Saint-Denis, of Monceaux, as also the valley in which the whole northern part of Paris is built.

Here the ground presents outside of the walls of Paris, the hills of Etoile, of Chaillot, of Passy,

which descend towards the plains of the Roule, of Sablons, of Billancourt, of Boulogne; and, inside of Paris, the hillocks of the suburbs of Saint-Denis, and Saint-Martin, which decline from the platform of La Villette to the right bank of the river by an insensible declivity, uninterrupted by any elevation, although one sees the small ridges of Meslay-street, of Bonne-nouvelle, of Petits-carreaux, Petits-Pères, and des Moulins, but these ridges have the same origin as those of the Estrapade and of Sainte-Hyacinth-street, on the left side of the river.

Among those elevated points which command the surface of the Department, there are some that deserve attention, such as Mont-Valérien, which is 136 metres (420 feet) above the level of the Seine; Montmartre, which is 105 metres (324 feet); and in the city itself, Mont-Sainte-Généviève, that is 35 metres or 108 feet.

No great streams of waters flow from the bosom of these mountains, but many springs escape; some of these are mineral, such as that of Passy, which contains iron; that of Montmartre, which is sulphurous; a third, exists at Vaugirard (65 Blomet-street); another, at Auteuil; the waters of Passy alone are used medically.

Three rivers run through the middle of the Department: the Seine, the Marne, and the Bièvre.

The first, and most important of the three, crosses it from east to west, from Villeneuve-Saint-George to Nanterre. The length of its course is 59,845 metres (15 leagues); and its breadth averages 188 m. (570 feet); its declivity is of 1 m. (3 feet 1 in.) upon 2300 m.; its swiftness, of 1 metre 42 centimeters per second.

The Marne and the Bièvre reach the Department, the former above Bric-sur-marne, the latter below Anthony. The Marne unites its waters with those of the Seine at the Hamlet des Carrières below Charenton; the space it runs through at that point is 22,675 met. ( $5\frac{1}{2}$  leagues), its breadth in the average is 85 met. (262 f.).

The Bièvre throws itself in the Seine not far from the Hospice of la Salpêtrière. This small river, which is but 3 metres wide in the average, presents, nevertheless, this remarkable peculiarity, that it supplies in the Department alone the moving power of 200 manufactories erected on its banks.

Other streams, such as the Croult, the Rouillon, the Vieille-Mère, the brook of Sarcelle, those of Pierrefette, of Montfort, the Rhone, the Morée, the Mortbras, Saint-Joye, Lanoue, the rivulets of Montreuil, and of Champigny, irrigate the Department.

Lastly, four canals, those of Ourq, Saint-Denis,

Saint-Martin, and Saint-Maure, seven docks, and eleven ponds, complete the list of waters. The land they cover is estimated at 13,645,097 metres square (or one 37th part of the whole surface of the Department).

A Department so limited in extent cannot contain extensive woods; the only remarkable ones, remnants of the large and old forests that, in former times, covered that part of France, are those of Vincennes, of Boulogne, and those that reach Meudon and Fleury. Others, but of less size, are disseminated in groves on the territory of the communes of Romainville, Bondy, Pantin, Fontenay, Maisons, &c. Their totality, should they be united, would occupy 2657 hectares, of which 799 lie at the north, and 858 at the south.

Thirteen royal roads present together a length of 104,000 met. (26 leagues), and a width of 27 m. (74 feet). They start from the Cathedral of Paris, and extend even beyond the limits of the kingdom.

The departmental roads number 77; they measure 12 m. in breadth (37 feet), and taken together, give a length of 525,000 metres (64 leagues); some of these, like royal roads, start from the Capital, the others cross them at various points.

The ground occupied by all these roads is equal to 5568 kilom. or 1392 leagues, and if there be



added to them about 150 (734 kilom.) for the communal ways, there will be a total of 1500 or 1600 leagues, the course of which, broken into a thousand unequal portions, furrows in every direction the surface of the Department.

Lastly, 20,000 hectares, or about half of the territory, is given to the cultivation of wheat, rye, barley, oats, leguminous plants, &c., and 3000 to that of the vine.

The political division of the Department of the Seine, is in accordance with its small extent. There are but two Sous-Préfectures; the former, or northern, is that of Saint-Denis; the latter, or southern, that of Sceaux.

These two circuits, divided from east to west by a line perpendicular to the meridian and not by the course of the river, are themselves partitioned into 8 cantons and 80 communes, in which are numbered more than 5000 country-seats.

In the midst of habitations of all kinds, of numerous hamlets, and villages, and boroughs, spread over the soil, and separated sometimes by fine avenues, sometimes by fields, by meadows, by woods, rises in the lowest part of the valley, like an amphitheatre, on both shores of the river, an enormous mass of houses, in a word, an immense city; that city is Paris, respecting which more

than a century ago Vauban wrote the following remarkable words: "It is not possible to deny it, that city is to France what the head is to the human body. It is the head of the Kingdom, the common mother of the French and the abridgement of France by whom the People of that great state subsist; and whom the Kingdom could not repudiate without essential injury."

Paris, which already deserved in the time of Vauban such high praise, occupies now more than two square leagues (34,379,016 met.)\* and is 6 leagues in circumference (26,551 m.). The wall, which surrounds it completely, is pierced by 58 gates or barriers, through which is entered its vast inclosure.

Its shape is nearly that of an irregular oval, the greatest diameter of which from east to west, from the barrier of Passy to that of Charenton, is two leagues (7,809 met.); and the smallest from north to south, in the sense of the meridian, or from the barrier of Health to that of Martyrs, is one league and a half (5505 met.).

Its chief establishments number 200. There are 37 churches, 7 temples consecrated to various

\* Pekin has according to Balby, 15400 toises, and 1,300,000 inhabitants; London, 1,472,000; Constantinople, 700,000; Jedo, capital of Japan, 1,200,000.



worship, 1 bank, 1 exchange, 1 mont-de-piété, 37 markets, 7 large markets or halles, 27 theatres, 7 colleges, 42 barracks, 27 hospitals and hospices,\* 13 prisons, 5 slaughter-houses, and 3 cemeteries.

Divided as regards public administration into 12 wards and 48 districts, Paris is again divided physically by the Seine, which crosses it in all its length, and the various branches of which separate it into five islands of unequal size. The two principal are, one on the north of the right shore, containing 9 wards; the other, on the south on the left bank, containing but 3. In the middle of the river are the Isle of Saint-Louis, Isle of Louviers, and Isle of the City, whose name indicates that its narrow inclosure was formerly sufficient to contain all Paris.

Twenty-six bridges, four of which are suspended, unite between them different portions of the city, which are by themselves whole cities, subdivided by more than 1800 streets, lanes and passages.

Paris contains now 785,862 inhabitants, and 29,000 houses, of which 11,000 only have porte-cochères.

\* Hospices are establishments for the reception of invalids and old people. Hospitals for sick and wounded.

The circuit of Saint-Denis numbers	86,682 souls.
do. of Sceaux	<u>73,154</u>

The whole population of the Department is 945,698 individuals.

Its small extent subjects it to the same conditions as the capital with regard to temperature and climate. Situated in the middle of the temperate zone, it experiences neither burning heat nor rigorous cold. However, it happens sometimes, that the thermometer ascends, in the summer season, to 28 and 30 degrees R. (36 and 38 centigr.), and descends, in winter, to 14, 17, and 18 R. below zero (17, 21, and 24 centigr.), but these are rare instances. It has been remarked that the lowest term was on the 14th of January, 25 days after the winter solstice, and that the highest could be fixed on the 15th of July, also 25 days after the summer solstice.

The average temperature of the year is about 8 deg. R. (10° 81 centig.), and corresponds pretty generally to the 23d of April and 22d of October.

But that numerical expression gives but a very imperfect idea of the usual state of the atmosphere in Paris; it is necessary, for the purpose of this report, to make it better known.

The winds that prevail most commonly on the horizon of the capital are the south, southwest,

west, north, and northwest. On an average year, taken from a series of observations recorded at the Observatory, and which include 21 years (1806 to 1826), those winds blow during 279 days, or three quarters of the year ; those of east, northeast, and southeast, during 86 ; they constantly bring along with them, in summer, a clear sky and fine weather ; in winter, a smart and sharp frost.

The winds of northwest, west, and southwest, on the contrary, and they are the most frequent, load the atmosphere with thick clouds, bring gloomy weather, dark days, rain, fog, snow, a temperature sometimes soft and warm, but more often damp and cold.

From the usual direction of the winds we may judge of the constitution of the year. Thus we number but 57 days of heat, and we can count 58 during which it freezes, 12 when it snows, 180 when fogs prevail, and 140 of rainy weather.\* The quantity of water that falls during the rainy season is 21 inches (55 centim.).†

\* It is understood here that we mean the day, such as it is noted in meteorological observations ; that is to say, that it may happen, that on the same day we have fog, rain, and snow ; in that case the day is marked three times. In the space of 135 years (1689 to 1824) they have noticed only three times one month without rain.

† It is at Milan 28, at London 21, at Naples 25 inches.

Such a state of the atmosphere accounts for the long winters, the chilly and piercing springs of Paris; it explains why its damp climate so rapidly corrodes the paint on iron or wood; why it affects marbles and statues exposed to the air; darkens beneath the hand of the workman the stone that he carves, and blights on the cheek of the child, brought up within the walls of Paris, the freshness of infancy.

Nevertheless, in spite of the picture that has been here presented, in spite of the sudden variations of the atmosphere from 10 to 15 degrees in 24 hours, the climate of Paris is not unwholesome. A warm summer and beautiful autumn compensate for the rigors of a spring in its nature too closely resembling winter.

If a favorable climate be one of the first conditions of health, the salubrity of dwellings is another no less important; in this respect Paris cannot be compared with what it once was.

Not yet 60 years have elapsed since its streets were badly paved, scarcely lighted, full of mud, of filth, of dirt. High, narrow, dark houses overlooked the bridges and quays.

The factories, the shops where repulsive or prejudicial trades were followed, tan-yards, gut-factories, foundries, slaughter-houses, whence large

streams of blood escaped to the gutters in the centre of the streets, were all situated in the interior of the city. Death had also its depots, the largest as well as the most ancient of which was in the Cemetery of the Innocents, situated on the very spot where is now the market of that name. Twenty parishes each day carried forth their dead to that deep gulf, always ready to receive them, and which already contained more than a million of bodies. During the soft, wet weather of winter, there escaped from that dreadful sink of infection vapors so noxious that they very soon corrupted all alimentary substances, and generated in the neighborhood dangerous diseases.

Beneath the pavement of churches many vaults also existed, and during the celebration of divine service the effluvia of dead bodies was frequently perceptible, which rising from the sepulchres, ascended through the soil, and spread itself through the interior of the temples.

The spectacle that the hospitals offered was most offensive. One single bed contained as many as six and eight sick. Women in need and pregnant, went to the Hotel-Dieu to be confined: there were fourteen or fifteen hundred patients a year. These were put four in a bed. We leave to the imagination of the reader to depict what must

have been the situation of four women recently delivered, put together in a small bed, from which, when the blanket was raised, escaped so thick a cloud of vapor, that the eye could see and the hand divide it. Half of these unfortunate creatures did not survive.

Lastly, the interior of the jails was so horrid, that criminals preferred death to remaining in their walls.

These times are no more. New laws, new institutions, have created new manners and a new city. Wise regulations have removed from its centre, establishments necessary to the wants of a great agglomeration of men, but the uses of which are noxious and repulsive. Localities, better selected, have been appropriated to them, and the building of large abattoirs, the monumental grandeur of which corresponds with their utility, proves as much the progress of art as of a regard for public good.

The cemeteries have been transferred outside the walls of the city, and the heaps of filth and remnants of infectious matter, which neglect or interest crowded near the habitations of men, have been transported far away.

The hospitals are at the same time more numerous and better managed. There are some pre-

pared for all ages, all sexes, all diseases. Interior distribution better understood, a greater degree of cleanliness, a healthier diet, have reduced to one in seven the mortality which formerly was one in four, at the Hotel-Dieu; and the system of amelioration which thus preserves the lives of the poor, has not perhaps reached its furthest limits.

Among the institutions, the creation of which is due to modern times, there are four that deserve a particular notice: the Hospital Saint-Louis, specially devoted to the treatment of diseases of the skin; that for venereal patients; that for sick children, and lastly, the Lying-in-Hospital, exclusively appropriated to women in a state of advanced pregnancy. There, each patient has a bed to herself, and receives assistance not merely as a patient, but as a mother. Three thousand each year are generally admitted. This establishment, quite modern in its origin, is perhaps the greatest benefit that civilization has conferred upon the distressed poor. To it they are indebted for the preservation of the only worldly happiness they can enjoy, wives and children.

Dispensaries, benevolent offices, are organized in each of the 12 wards; advice and treatment free of charge are besides daily afforded in all the Hospitals; the diseases of the poor mechanic are



thus relieved or cured without his being obliged to separate from his family, or cease his labor.

Humanity has still less to complain of with respect to prisoners. Underground cells and dungeons no longer devour their victims, and if mortality is yet very great, at least imprisonment does not cost the wretch deprived of liberty, 17, 25, and even as much as 35 years of life.

The bridges, cleared of the old and clumsy houses which encumbered them, are now more pleasant and commodious, and the quays and streets to which they give access, receive more light and more air.

Narrow, crowded, and unwholesome quarters of the city have disappeared; others have been enlarged, and rendered more airy by large squares and wide streets; others have been erected on regular plans, affording at every point, easy communication.

A pond always full, that of La Villette, a vast reservoir for the waters of the Ourq Canal, distributes them to each ward of the city through subterraneous pipes, whose numerous branches feed new fountains constructed during the last twenty years\* in the public places, markets, and at differ-

\* This Report had been written in 1833.—*Note of the Translator.*



ent intervals throughout the principal thoroughfares. The supply of water, though as yet insufficient, has nevertheless permitted its use not only for public but also for private purposes, and it is a remarkable progress in our manners, and ameliorated sanatory habits, to see bathing establishments so much increased in the capital, and even in surrounding villages.

Such are the improvements that Paris has experienced for the last fifty years; they are numerous and important; they prove softer manners and more liberal ideas, but they are yet far from being complete; for as far as the public good is concerned, the limit of human effort will be found only when nothing is left to be done.

## CHAPTER III.

### INVASION AND DEVELOPMENT OF THE CHOLERA IN PARIS.

ON the 6th of January, 1832, many Physicians already believed\* that they had discovered in several patients symptoms of cholera, when, on the 13th of February, a rumor was suddenly heard, that in Lombard-street, in the 6th ward, a door-keeper had died of it. The impression made by this event upon minds previously disposed to alarm, was strong enough to induce the Central Commission to send one of their number in order to verify the truth of the report.

Nevertheless, medical men still hesitated to declare their opinion, when, on the 26th of March, four persons were suddenly attacked and died in a few hours.

\* The cholera had made a short appearance at Calais on the 25th of March of the previous year.

The first was a cook; the second a little girl of ten years of age; the third, a pedler-woman; the fourth, an egg dealer.

The next day, 27th, six inhabitants, in whom all the symptoms of cholera were pronounced to be in the highest degree apparent, were taken to the Hotel-Dieu.

On the 28th, the number of sufferers amounted to 22; on the 31st it was already 300, and out of the 48 districts of Paris, the disease had invaded 35, viz: 1st ward, Le Roule and the Champs Elysées; 2d ward, the Faubourg Montmartre; 6th, 7th, 8th, 9th, 10th and 11th wards, in each four districts; and in the 12th ward, Saint Jacques, Saint Marcel and the Jardin des Plantes.

From that moment the Central Commission declared its sitting permanent; Offices of Assistance were organized in each district, and temporary hospitals established at the Seminary of Saint-Sulpice, in the Grenier d'Abondance; and the Lazaristes, of Sevres-street; at the Gros-Caillou; at the Leprince Hospital; at the Bons-Hommes; at the Hospices des Ménages; at the Orphan House, Faubourg Saint-Antoine; in that of the Convalescents at Picpus; lastly, in the mansions of Messrs. Mallet, Rue de Clichy, of M. Derosnes, at Chaillot, and of M. Amelin, Rue de la Pépinière.

The third ward alone, had until now been spared, but from the 31st of March, to the 1st of April, the epidemic spread itself over the whole city, and raged with a peculiar virulence in the districts situated on the shores of the Seine, such as those of the Hotel-de-Ville, of the City, of the Invalides, of the Gros-Caillou.\*

Already out of 300 patients, existing on the 31st, and the residence of 249 of whom was known, 86 were no more. The cholera broke out on the 26th of March, and on the 2d of April more than 100 perished daily; on the 3d, the number was 200; on the 5th, 300. Every twenty-four hours the mortality increased in a fearful ratio. On the 9th, more than 1200 persons were attacked, 814 of whom died.

In short, eighteen days after the first appearance of the plague, (14th of April,) 12 or 13,000 sick were counted, and 7,000 dead; for such was the terrible nature of the epidemic that the earliest symptoms were but too often followed by death in a few hours.

The rapid march of the disease, that had leaped, as it were, from London to Paris, its sudden ap-

\* At Vienna, the disease made its appearance from the 13th to the 14th of September, in six districts; the next day it had invaded all the others.

pearance for which no one was prepared, and its extreme violence, unexampled in Europe, thwarted all calculation, and rendered nugatory every precaution hitherto taken. It became necessary to resort promptly to new measures, to employ new expedients; the magistrates, the central and district Commissions, redoubled their zeal, and a number of good citizens seconded their efforts.

By order of the Prefect of Police, the common sewers, and the puddles which existed in several districts were removed; infected lanes were closed,—others paved. The emanations from the sinks that could not undergo immediate repair, were neutralized. The ditches of the Boulevards, that it had been dangerous to cleanse, were sprinkled with chlorined water, with which the pavements of the streets, and the flagging of the markets were also washed several times a day; the number of hydrants was increased; lastly, the trenches of the Isle-Louviers, which had become receptacles of mud and filth, were overflowed by the waters of the Ourq Canal, brought there for the purpose.

The city by these precautions was rendered more wholesome, but the preservation of the inhabitants required others no less pressing. The condition of two classes, in particular, was calculated to excite the deepest interest; the poor, and the prisoners.

Means were provided for assisting the former at their own houses, and a certain number of ambulatory hospitals were established in districts less distant from their abodes than the temporary hospitals, which were almost all situated at the extreme ends of the city. Ambulances were placed at the old Ministère-des-Finances, at Saint-Germain-Lauxerrois, in the Rue Grange-Batelière, at the Elysée-Bourbon.\* This measure had the double advantage of multiplying the means of assistance, and of preventing the overcrowding of the hospitals, so often attended with fatal results; but these hasty asylums were in a great measure destitute of mattresses, blankets and linen. The necessity admitted of no delay. The Administration resolved to make an appeal to public benevolence. The Commission would consider itself as deserting the most pleasing part of its duties, should it omit to mention here the zeal of those generous citizens, who, in these mournful moments, showed their eagerness to offer either large sums for the use, or a part of their own dwellings for the reception of the sick; and the royal benevolence, not satisfied with opening the large infirmaries of the

\* Now the residence of the first President elected by the French Republic.—*Note of the Translator.*

household, added a gift of 584,000 francs, and 1200 beds, all complete. Twenty-four hours had scarcely elapsed, and public charity had furnished all that was necessary for the ambulances, the temporary hospitals and the medical stations. It did more: it brought there many young men, students in law and other schools, and many young women, who, during the whole intensity of the disease, devoted themselves to the service of the sick. Rare and privileged beings! to whom every new misfortune is but the occasion of revealing a new virtue, and whose tender benevolence would wish, by the sacrifice of themselves, to redeem humanity from all the evils that afflict it, the Commission, in this report addressed to its fellow citizens, could not forget either their ardent zeal, nor its own gratitude!

Among prisoners, the Prefect of Police caused the distribution of warmer clothing, and more substantial nourishment. The inside walls of the prisons were whitewashed with pure lime, the air of the rooms and of the dormitories purified by continual ventilation; and the furniture and floors of the cells frequently washed with chlorined water.

But the Administration had other cares to observe, other duties to perform, not less important nor less difficult; these related to burials, the de-

lay or neglect of which was forbidden by regard for public salubrity.

It seems at the first glance, that nothing is more easy than to commit a dead body to the earth ; but in our present social state, how many cares, how many steps, how many formalities are required to accomplish it ! A member of the faculty must certify to the death ; witnesses are necessary to authenticate the declaration ; clerks to give it legal validity ; porters to place the body in its coffin, and the coffin in the hearse, &c. &c. How many things, how many hands, are employed to move him who moves himself no more ! And, if in ordinary times, these duties are readily performed, can we believe they will be as easy of fulfilment in the midst of an epidemic, the activity of which surpasses your own, daily accumulating heaps of dead which each morrow beholds increased ? Certainly, if there be at such a time a fear, distressing to an Administration, it is that of seeing the means at its command suddenly sink below the exigency that requires their employment. But there was something on this occasion, still more appalling for an Administration fully aware of the urgency of the requisitions, of the gravity of existing circumstances, and of the frightful responsibility that devolved upon it ; it was the fatality which seemed to



follow and oppose every measure of relief prescribed.

In spite of the zeal and activity shown by the clerks in drawing up the legal certificates, death struck faster than they could write the names of its victims. It was found necessary to increase the number of those useful men, and that of the records of the *Etat Civil*. The law intrusts their surveillance to the Crown Attorney (*Procureur de Roi*). The *Prefet de-la-Seine* had to consult that officer before he could be authorized to open a new book in each *arrondissement*, and these established forms, generally so useful, then caused a delay, the consequences of which it was most terrible to behold.

The pestilence had scarcely commenced its ravages, and already the number of dead rose each day above that of the most elevated rate of ordinary mortality. Thence it was easy to foresee that the means of transport of the *Entreprise des Convois*\* would prove insufficient. Already the number of laborers had been doubled, and fifty hearses had been ordered; 700 workmen were busy in their construction, for which they required only 8 days, but the disease moved at a pace more rapid than

\* A company that has, in Paris, the monopoly of funerals.

their work. An attempt was made to induce them to labor during the night, by the promise of increased pay ; then these men, who until now had been all willingness, growing fearful of exposure, declined an extra labor, the consequence of which might have proved dangerous to themselves. "We prefer," they said, "life to high wages." It was found prudent to yield, and the Administration, pressed by a plague that nothing could check, was compelled to discover and employ other means for the disposal of the dead.

It was then determined to employ artillery-wagons ; these were all ready, and it was easy to obtain them from the Secretary of War in sufficient quantity. For one night the experiment was tried ; but the rattling noise so peculiar to this sort of vehicle, that noise so well known, disturbed, in a painful manner, the sleep of the inhabitants. Besides, an accident happened, that no one had foreseen. These wagons have no springs ; the strong jolts given in the march to the coffins they contained, loosened the boards, the bodies fell out, and the stiffened tissues of the viscères bursting open, allowed the escape of a noisome fluid, which dripped from the wagons to the pavement. It became evident that this means of conveyance must be renounced.

But the plague increased; the dead accumulated in houses and hospitals; the dead-rooms of those establishments were found too small. It was feared that the typhus fever might add the horrors of a contagion to the calamity which already existed. The determination was then taken to convey the dead in the wagons of upholsterers and furniture makers. These at all events were large, suspended on springs, and had nothing to apprehend from the inconvenience of rough pavements; besides they offered the advantage (no trifling one at this juncture) of admitting a greater number of coffins at once. Their service also, easily done at all points of the capital, prevented the danger which would result from an accumulation of bodies. But the sight of these new funèral cars, as they progressed slowly through the middle of the streets, delayed in their march by the weight of their mournful load, made on the minds of citizens, and chiefly of women, such an impression of grief and terror, that their use was soon abandoned, and the Administration found itself once more deprived of the means of encountering an epidemic, the end of which no one could predict.

At last the *Entreprise-des-Convois* had completed their new means of service; they hastened to use them, and began to hope that the virulence

of the disease would not be such as to render them insufficient.

But new difficulties now presented themselves. Steps had been taken for the inhumation of the dead, and orders issued to the General Inspector of the three burial grounds of the capital, to enforce their strict execution. It is known that the regulations prescribe to each private grave a width of  $2\frac{1}{2}$  (8 decimeters) and a depth of 5 feet, (1 m., 5 dec., or 2 m.); experience having shown that the miasma arising from decomposed bodies cannot escape through a bed of earth of such thickness, particularly when the ground has been well trampled, a precaution insisted upon.

As to the common graves, a sort of trench, open on a length of 60 feet (20 m.), it was expressly forbidden to put in more than one layer of bodies upon which a coat of quick-lime\* was immediately spread, and covered with  $4\frac{1}{2}$  feet of earth (1 m. 50 cent.).

\* Eight hundred metres, cubic, of quick-lime have been thus used; the General Board of Hospitals thought proper not to conform itself to those dispositions, and by its resolution of the 28th of March, 1832, permitted the deposits in the graves of the burial ground, exclusively used for the hospitals, of as many as three layers of bodies, one above the other, taking care to cover each over with a few inches of saturated water of chlorure and one foot of earth. In spite of this precaution, and of the depth of 8 feet given to each grave, an infectious smell constantly arose from that cemetery during the whole duration of the epidemic.

For some days it had been noticed that the workmen, alarmed at the great number of graves to be dug, and already frightened by the rumor that the disease was contagious, approached the coffins with great repugnance. Suddenly giving way to a dread, rendered more intense by their ignorance, they absented themselves altogether, and no reasoning, no entreaties could prevail upon them to resume their labors.

The narration of the terrible and sanguinary scenes, of which the capital became the theatre, must form no part of this report. The Commission is happy not to be compelled to relate them; and if it permits itself this passing allusion, it is that the reader may the better understand the cruel position of the Administration, whose resources and means of action were dependent on those very men who at that moment were animated by a spirit of resentment and revolt.

Many bodies had been brought to the burial ground, and in a few hours decay would begin; it was urgent to bury them instantly, and the means of so doing suddenly failed. Besides, what was to be done with the dead of the morrow and those of coming days? Were they to remain without sepulture? Were the cemeteries to become but sources of infection which living men must shun?

What would be the fate of the capital itself, thus delivered over to pestilence and death? The situation was embarrassing in the extreme, but perseverance and firmness overcame all obstacles.

The laborers declined working; the General Inspector received from the Prefect of the Department an order to replace them by others; many of these refused, but at last his adroitness and zeal prevailed on a number to follow him. Their arrival on the ground disconcerted their comrades, who were not prepared for this movement. Exhortations and the offer of high pay had their influence upon many, and the most obstinate were discharged. In the meantime, in order to soothe reviving apprehensions, a medical station was established at every burial-place. From that moment order was restored, and the necessary labor rapidly performed. The Administration dared to hope that, however serious the epidemic might become, it would no more have the desolating apprehension of seeing the means of relief unequal to daily exigencies, and it must be confessed, such had been the case during a few days; it was doubtless a great affliction, but it had passed away, and the whole energy of the Commission could now be devoted to conquer or mitigate the pestilence.

In fact, its fury did not relent. Vainly was it

published in the newspapers, and supported by the opinions of medical men, that the march of the epidemic would resemble that of its predecessors, that the plague was too violent to last long, and having reached its highest degree of intensity, would necessarily diminish as rapidly as it had increased; the events of to-day gave the lie to the assertions of yesterday, and the distemper continued its deadly ravages.

It was then, when the capital of France was a prey to a horrid evil, in contending against which art had exhausted its resources, and of which it could no more indicate the term, than it had been able to subdue the violence; when the terrible plague devoured every day from 7 to 800 persons, and threatened to carry off 25,000 in a month, without any diminution of the mortality caused by ordinary diseases;\* when the streets presented continually the painful spectacle of sick people dying, or already dead, carried on hand-barrows to the nearest hospital; or the sight more woful still of those large wagons, the mournful draperies of which, agitated by the wind, exhibited the numerous

\* The number of deaths in Paris had been for the year 1832, 44,119, not counting the bodies deposited at the Morgue. Deducting 18,402 deaths caused by the cholera, 25,717 will be left. The average for the last 10 years has been 25,300.



coffins they contained; it was then that desolation and terror knew no limits, and that the inhabitants, believing themselves devoted to inevitable death, hastened to abandon a city already changed into a vault.\*

At last the evil abated; the 14th of April, the number of deaths fell from 756 to 651; the 30th they amounted to little over 100, (114,) and from the 17th of May to the 17th of June, they were but from 15 to 20 a day.

Already the public mind began again to cheer up, and the hope was entertained, that the plague had expended its force; when at the end of June and in the first days of July, a pretty large augmentation became manifest in the mortality, which increased and varied daily between 30 and 45.

Suddenly, that limit was passed: the 9th of July, 71 persons died; on the 18th, 88; the next day, 107; 128 the 15th; 170 the 16th, and 225 the 18th.

Again terror reigned in the city. In the uncertainty which existed as to the duration, as well as the degree of intensity which characterized that return of the disease, or what medical men agreed

\* The number of post-horses taken on the 5th, 6th, and 7th days of April, was 618. That of the passports increased 500 per day.



to call its reerudeseense, it was thought prudent to resort immediately to the means of eounteracting it already employed at the time of the first appearance of the disease. The temporary hospitals had been elosed; two were re-opened, those of the Bons-Hommes, and of the Grenier-d'Abondanee. Fortunately, these preeautions proved useless. On the day following the 18th the deaths diminished to 130, and the same rapid decrease continued some days after. The 28th of July, there were but 25 to 30 deaths per day,\* and although such a mortality might at any other time, and from any other disease, have been regarded as a very great ealamity, it was then thought light, and the plague as comparatively over, when it was remembered that thousands of victims had previously fallen in a single month.

The disease kept within these limits during the whole of August, and the beginning of September. From the 8th of this month, the number of deaths fluetuated between 10 and 20 per day; it oseillated afterwards between 1 and 10 from the 18th of September to the 1st of October; then between 0 and 6. At that time (25th of September), the cholera

\* The 30th of July; 16th, 21st, 27th and 3d of August, they were from 30 to 47.

was considered as extinct ; the newspapers ceased to publish the deaths, and the capital thought herself relieved from a plague, that had not ceased during the space of six months to decimate its unhappy inhabitants.

The total duration of the epidemic-cholera in Paris, if counted by days, had been 189, or 72 weeks, from the 26th of March to the 30th of September (from one equinox to the other).

The period of the augmentation or increase of the disease was 16 days, and of its diminution 62. Thus it appears that the latter lasted four times longer than the former. The same observation was made in several cities of the north of Europe, where the mortality seems to have diminished less rapidly than it increased.

When the disease first appeared, it carried away more than three-fifths of the sick ; out of the 22 first cases that occurred, 18 proved fatal ; but on the 20th of April, the proportion was reduced to one-half. In the beginning of May, it was one-third,\* and at a later period a fraction less than a third. However, 3200 beds were still occupied by cholera-patients, of whom the greatest portion suc-

\* The average in the hospitals was from 70 to 71, in the first days of May ; and that of the deaths from 27 to 28.

cessfully resisted the first attacks of the disorder.

The number of convalescents appeared also to increase, as the number of new patients and of deaths diminished,\* so that it might be believed that the malignity of the epidemic had subsided during its progress, and could no longer strike either so fast or so frequently.

During the four first weeks of the decrease of the disease, that is from the 17th of April to the 12th of May, the mischief subsided so gradually, that only on three occasions was the mortality as great as it had been some days before. The number of the sick and of the dead increased up to the 9th of April, at which time it seems to have reached its maximum [814]; but from the 10th of May to the 10th of June, when the plague becoming less violent carried away but 30 or 40 persons daily, the number of deaths presented frequent oscillations, during which the epidemic seemed inclined either to revive again in full force, or to abate entirely. Thus it was that on the 20th of May it caused 9 deaths, and the next day 22; then falling to 8 on the 25th, increased on the 29th of May, and 4th and 19th June, to 23, 25, and 42.

\* The first cure does not appear to have taken place before the 28th of March.

It was observed that in those districts which had been last attacked, such as the 2d and 3d arrondissements, the period of greatest mortality was delayed for them as had been that of the first assaults, and that it came only on the 13th and 14th of April; thus each ward presented a complete history of the rise and progress of the disease, and the same thing may be said of the rural districts.

The following observations complete the history of the epidemic in the capital.

It spread itself rapidly through the city for 15 days. Arrived at its highest degree of virulence it remained stationary during 6 other days; then began its period of decrease, which lasted 2 months.

On the 18th of June, it revived suddenly with fresh vigor; but this recrudescence, already much modified by the constant alternations of increase and diminution, was also marked by different characteristics. The first invasion had employed only 2 weeks or 15 days in reaching its maximum of intensity. The latter took 4 weeks or one month, (from the 17th of June to the 18th of July,) and that maximum (226 deaths) fell far short of the first, which had reached as high a number as 814. This second period, compared with the first, differs from it in two respects: longer duration and less virulence.

The wards in which the epidemic, on its first appearance, struck the greatest number of victims, were those which suffered most during the recrudescence. The following table shows in this respect the relative proportions existing between them.

Arrondiss- ments.	FIRST INVASION.		Arrondissi- ments.	RECRUDESCENCE.	
	From 1st April to 17th June.			From 13th June to 31st Sept.	
10th	1272	} 5761 deaths.	10th	413	} 1947 deaths.
9th	1030		8th	352	
8th	954		7th	342	
12th	874		12th	320	
7th	859		11th	269	
11th	772		6th	251	
6th	566		5th	214	
1st	435		9th	209	
5th	405		2d	178	
4th	378		1st	165	
2d	357		4th	150	
3d	256		3d	147	
Total, 8158			Total, 3010		

A glance at this table is sufficient to demonstrate that during the first appearance of the epidemic, out of 8,158 deaths, 5,761, that is to say 67 in 100, or somewhat more than two-thirds, took place in the 7th, 8th, 9th, 10th, 11th, and 12th arrondissements, and that during the recrudescence these same 6 wards, excepting the 9th, which was replaced by the 6th, furnished 1647 out of 3010, a

proportion nearly equal to the first, since it was of 65 in 100, or two-thirds.

When we reflect on the disposition of the disease to affect certain localities more than others, and recollect, at the same time, that the arrondissements particularly assailed form that portion of the city which extends from south to east, and that in these wards, the streets that suffered most severely were generally those where the population was most dense, and composed of the poorer classes ; we may easily judge what degree of credit can be given to the assertion so frequently made, that the cholera, from first to last, selected its victims more particularly from the higher and wealthier classes. But this question will be examined, with all necessary developments, in another place.

It has been said that the whole duration of the cholera was of 6 months and 6 days, or 189 days. This period divides itself into two epochs : that of invasion and that of recrudescence ; each distinguished from the other by progressive augmentation and diminution of the sick and dead.

The first epoch begins with the invasion and ends about the middle of the month of June ; it is of 88 days.

The second begins where the first ends, and

has for its termination the extinction of the epidemic itself; it embraces a space of 101 days, if the cholera is to be considered as being over on the 1st of October, or at least as having lost its epidemical character.

Finally the cholera cost the French capital :

First period, Invasion.	{ In March,	90	} 13,901 deaths.
	{ In April,	12,733	
	{ In May,	812	
	{ In June up to the 15th,	266	
2d Period, Recrudescence.	{ End of June,	602	} 4,501.
	{ In July,	2,573	
	{ In August,	969	
	{ In September,	357	
Total,			18,402.

In publishing this result, the Commission is not ignorant of the exaggerated reports that have been circulated, and which still circulate, respecting the number of victims that the cholera carried off within the limits of Paris. It is known, that many persons have not hesitated to state with a questionable confidence, that the number of the dead was not less than 40 or 50 thousand, and that others, more moderate in their estimate, believe themselves right in affirming the loss to have been at least 30,000.

It has been maintained that the Administration



possessed no means of attaining any thing like certainty in this respect; that in the midst of the trouble and embarrassment consequent on the first appearance of the disorder, it had neither the time nor the means of ascertaining the exact number of deaths; that many declarations were not made, and that those omissions, involuntary no doubt, but not the less certain, justify the little confidence to be placed on the report of the number of the dead made by the Commission.

First, it may be answered, that because an event may have happened in such a manner, it does not follow necessarily that it has so happened. The deduction drawn from a supposed fact does not demonstrate its truth; and it is bad reasoning to begin by advancing, as an established fact, what requires to be first proved; and besides, are those who thus speak aware of all the formalities that precede the inhumation of a corpse? It will not, perhaps, be useless to mention them here.

When an individual dies, a declaration of the fact is to be made to the proper authorities of the arrondissment; a warrant is immediately directed to the physician, appointed for that purpose, to enter the dwelling of the deceased and visit the body, in order to certify the death, and ascertain



its cause; this is a precaution required alike by the moral and physical well-being of society.

This preliminary step having been taken, the officer issues duplicate affidavits of the fact, one copy of which is put on file, and every month the files are sent for examination to the Prefecture of the Department; the other copy remains at the office of the Alderman of the Ward. It is on the presentation of that document and the attestation of two witnesses, that the *acte-de-décès* (the authentic act of decease) is made out, and that the Mayor issues the warrant of burial to be presented to the keeper of the cemetery where the body is taken. Such are the conditions to be fulfilled before burial is allowed. They are many; 1st, declaration and attestation of death; 2d, the warrant of inquest; 3d, the draft of the civil-act; 4th, the warrant of inhumation.\*

Members of the Commission were sent to all the cemeteries of the capital; they caused the books to be produced, and copied the number of deaths inscribed during the months of April, May, June, July, August and September; others, at the same time, made similar investigations in the 12 arron-

\* These conditions are the same for the deceases in the Hospitals; except that the Physicians of those establishments are authorized to certify the cause of the death.

disssments, for the same months. The Commission then compared the results of these inquiries with that furnished by the inspection of the number of warrants issued from the first of April to the first of October at the Prefecture of the Department.

The extract from the books of the Etat-Civil in the 12 wards		
gives a total of	- - - - -	32,240
From the affidavits sent every month to the department		32,240
“ books of the Cemeteries of Paris,	21,319	} 32,478
“ of the Hospices and Hospitals,	10,470	
“ of the Military Hospital of the Val		
de Grace,	- - - 689,	
Difference between the number of buried bodies and the acts of		
decease,	- - - - -	238

This difference, though trifling in itself, would tend to throw a doubt on the accuracy of our estimate, were it not susceptible of explanation. It proceeds solely from double entries, as difficult to discover, as they are easy to account for. It sometimes happens, that the family of a hospital-defunct, actuated by a religious respect for the remains of their deceased relative, determine upon having the body buried in one of the burying grounds of the city. In such case, the declaration of the death is sent as usual to the Ward Office in which the hospital is situated; but the dead, already inscribed as entitled to burial in the special

ground of the hospital, is again recorded on the books of the *Etat-Civil*, at the Ward Office, where upon the demand of the family, a permit of burial in the cemetery of the city is delivered, and thence arises the double-entry : there is but one corpse, and yet there exists two proofs of inhumation. The Commission who discovered, thinks it right to bring this irregularity to the notice of the authorities.

It has been seen by the above, that the total number of deaths that occurred in the capital during the six months of the epidemic was 32,260 ; it only remains to determine, how many of these are to be attributed to the cholera. The Commission has found that they amounted to 18,402 ; and has no hesitation in presenting this number as certain !

If notwithstanding the inquiries and researches of the Commission with regard to this important and much contested point, they have not succeeded in overcoming the fixed prejudice of certain minds, it will be a cause of regret, but they must seek their consolation in the belief, that it is impossible to convince those who are determined to confide in nobody.

It is then to that number 18,402, that was limited the ravage of the epidemic in the capital, and the

Commission verily believe that this estimate is rather over than understated, because many deaths in the beginning were attributed to cholera, which were not formally verified as such.

## CHAPTER IV.

## SECTION I.

## THE CHOLERA AS INFLUENCED BY SEX.

THE total number of deaths by cholera was 18,402 ; that number was composed of 9170 men, and 9232 women, the proportion being nearly equal between the sexes, though springing out of unequal numbers, inasmuch as the census of 1831, which estimated the whole population of Paris, including the garrison, at 785,862 souls, showed an excess of 10,640 women.

	Males.	Females.	Total.
1. Died in their houses, . . . . .	5,123	6,045	11,168
2. " in the civil hospitals, . . . . .	2,852	2,552	5,404
3. " in the civil hospices, . . . . .	91	430	521
4. " in the military hospices and hospitals, . . . . .	830	7	837
5. " in the prisons, . . . . .	9	10	19
6. " whose residence was unknown, . . . . .	265	188	453
	9,170	9,232	18,402

The aggregate is to the general population in the proportion of 1 to 42·70.

If the mortality of each sex be compared with its respective number, a trifling discrepancy will be found; the proportion for males being one death in 42·23, (387,608 men, and 9,170 deaths,) and for females 1 death in 43·14, (398,254 women, and 9,232 deaths.)

The result furnished by a comparison of the sum total of deaths by the cholera with the whole population of Paris, might be allowed without falling into any great error; nevertheless, as it would not be altogether exact, it behooves us to seek the means of approaching more nearly, if possible, to the truth.

The population of Paris such as it has been given, (785,862 inhabitants,) is composed of different classes of inhabitants, which the Commission could not with any propriety place indiscriminately under one and the same head. There are classes of individuals, who though they reside within the walls of the city, cannot, on account of their occupations, diet and mode of life, be confounded with the rest of the inhabitants: such are hospital incurables, soldiers of the garrison, and prisoners. It is therefore necessary to subtract these classes from the whole population, and to subtract also the

number of cholera patients which they furnished. This will give the following result :

Population reduced, 368,940 men, 390,195 women, or 705,135
Deaths by cholera,    7,975    “        8,597    “        or 16,572

Thus out of 100 persons inhabiting Paris, the cholera destroyed 2 and somewhat less than a fifth (2·18), or one forty-sixth (145·81).

Out of 368,940 men the cholera took off 7,975, or 21·61 in 1000
“ 390,195 women        “        “        8,597, or 22·03

Here women seem to have been greater sufferers than men, while the first estimate exhibited for each sex an almost equal mortality.

At the beginning of the epidemic, more men than women perished : until the fifth of April, the proportion was as 3 to 2 ; but this difference ceased gradually to exist, and from the middle of April to the 10th of May, a few more women than men were counted. After this date, those last again took precedence, and continued to keep it till the epidemic drew near its close, so that the month of September witnessed between the two sexes, the same difference in mortality that had been noticed at the beginning of April.

## SECTION II.

## THE CHOLERA AS INFLUENCED BY AGE.

The relation subsisting between age and the mortality caused by cholera, presented a subject of interesting inquiry. In order to treat it with exactness, the Commission was obliged to base its calculation upon the sum total of deaths (18,402). The tables of mortality prepared at the bureaux of the Prefecture during the last 10 years (1820 to 1829), as well as those which treated of the population with reference to age, placed together indiscriminately all classes of citizens, military, prisoners, &c. It has therefore been found necessary to place them together here, in order to institute a comparison between the rates of epidemical and ordinary mortality.

Out of 18,402 deaths, there were :

From birth	to	5 years of age,	1311
" 5	to	10 "	392
" 10	to	15 "	202
" 15	to	20 "	377
" 20	to	25 "	959
" 25	to	30 "	1206
" 30	to	35 "	1423
Carried up			<hr/> 5870



				Brought up		5870
From	35	to	40	years	of age	1348
"	40	to	45	"	"	1311
"	45	to	50	"	"	1416
"	50	to	55	"	"	1473
"	55	to	60	"	"	1440
"	60	to	65	"	"	1527
"	65	to	70	"	"	1594
"	70	to	75	"	"	1288
"	75	to	80	"	"	756
"	80	to	85	"	"	307
"	85	to	90	"	"	58
"	90	to	95	"	"	13
"	95	to	100	"	"	1
Total						18,402

A little attention to this table will suffice to show, that early infancy from birth to five years inclusive, furnishes about one 14th part of the dead, (1311) or 71 out of 1,000.

Second infancy from 5 to 15 years, a 30th (594,) 32 out of 1,000.

Adolescence, from 15 to 30 years, a 7th (2542,) 138 out of 1,000.

Mature age from 30 to 60 years, almost one half, (8411,) 457 out of 1,000.

Lastly, old age from 60 to 100 years, about one third, (6544,) 301 out of 1,000.

From this first result, it would seem, that very young children, patients of middle-age, and old people have been most liable to the epidemic; but

this is but a simple statement of the numbers of deaths, which cannot indicate the intensity of the malady in reference to various ages. In order to discover this, we must recur to other modes of calculation.

If we compare the deaths by cholera at each period of life with the population out of which they were taken, we shall find that out of 53,124 children from 1 to 5 years, existing in Paris at the moment of the invasion of the cholera, there died

Of 53,124 from birth to 5 yrs., there died 1311 or 24·67					} of the 1,000
"	104,755	from 5 to 15	"	" 594 or 5·67	
"	236,938	" 15 to 30	"	" 2542 or 10·72	
"	304,129	" 30 to 60	"	" 8411 or 27·65	
"	86,916	" 60 to 100	"	" 5544 or 63·75	
<hr/>				<hr/>	
785,862				18,402 or 23·41	do.

From the above it appears, that first infancy suffered more than childhood and adolescence; mature age more than adolescence; and advanced age more than every other.

Lastly, if we compare the mortality caused by cholera to ordinary mortality, and examine what proportion the first bears to the last, we shall arrive at the following result, which shows the different degrees of its intensity at different periods of life.

*The deaths in Paris on an average of 10 years.*

From birth-day to five years,	7920	} 23,900
“ 5 to 15	1380	
“ 15 to 30	3420	
“ 30 to 60	5360	
“ 60 to 100	5820	

The deaths by cholera have been—

From birth to 5 yrs.,	1311 inhabitants,	or 1-6th	} of the ordinary mortality for 1 yr.
“ 5 to 15 yrs.,	594 inhabitants,	or 4-10ths	
“ 15 to 30	2542	“ or 2-3ds	
“ 30 to 60	8411	“ or 1-2 and more	
“ 60 to 100	5544	“ or 9-10ths do.	
Total 18,402			

The cholera therefore increased by 1-6th the chances of death by which early infancy is yearly threatened ;\* it added 4-10ths to the deaths of childhood ; increased by 2-3ds those of adolescence ; but its fatal influence seems to have been doubly felt by middle age, the mortality of which was almost brought to equal that of senility.

According to Messrs. Guinard and Girardin, the

\* Generally children under 7 years have been seldom struck. (*Du Cholera Morbus in Russia*, Page 36.)

least mortality would have been in Russia, from 30 to 35 years ; the next from 35 to 45 years, and the greatest from 45 to 50 years. If it be true, that it is from that period that man's strength begins to decline, and that in old age it gradually sinks towards extinction, it is not surprising that a disease, the chief effect of which is rapidly to prostrate all physical power, should strike most fatally these two periods of existence.

### SECTION III.

#### AVERAGE DURATION OF THE ATTACK.

Having determined the influence of the epidemic upon human mortality at various periods of life, the Commission desired to know what degree of resistance had been opposed to the action of the disease by patients of different ages. They have found, that—

From birth to 1 year, the average duration of the malady did not extend over 43 hours.

From 1 year to 5 it was 49 hours, or 2 days and 1 hour.

From 5 years to 10 it was 42 hours, or 1 day 18 hours.

From 10 to 15 it was 55 hours, or 2 days 7 hours.

In the years included between 15 and 60 years, 64 hours or 2 days 16 hours, and lastly from 60 to 90 and over, 60 hours or 2 days and a half.

Thus with the exception of the age from 5 to 10, the resistance of nature to the progress of the evil showed itself in direct ratio to the physical strength of the patient as inferred from his age, but so seldom did that strength prevail, that the only benefit of its efforts was to delay death, not for some weeks or for some days, but only for a few hours.

If the duration of the cholera, as a malady, be examined without reference to the age of the patients, it will be seen, that out of 4907 individuals, respecting whom it has been possible to obtain positive information,

204 have lived from 1 hour to 6 hours.					
615	"	6	"	12	"
392	"	12	"	18	"
1173	"	18	"	24,	or one day.
823	"	1	day to	2	days.
502	"	2	"	3	"
382	"	3	"	4	"
240	"	4	"	5	"
125	"	5	"	6	"
79	"	6	"	7	"
171	"	7	"	8	"
35	"	8	"	9	"
36	"	9	"	10	"
111	"	10	"	15	"
19	"	15	"	20	"
<hr/>					
4907					

Here the average duration was 61 hours 8 minutes ; considered with reference to age, that duration was but 61 hours 41 minutes ; and if reliance be placed on observations made upon 1,000 individuals only, it would seem, that in the month of April the patients died in the space of 61 hours [average time], and during the month of July, or during the recrudescence of the disorder, in about 43 hours.

In May, June, August and September, months during which the epidemic had lost much of its violence, its duration was in the average, three days and a half.

## CHAPTER V.

## THE CHOLERA AS INFLUENCED BY TEMPERATURE.

ALTHOUGH endemic and epidemic diseases are not always caused by any peculiar state of the atmosphere, yet it must be admitted that they often originate in meteorological phenomena, and therefore the study of those phenomena should not be neglected in the history of any epidemic.

It was proper, consequently, carefully to examine the atmospheric constitution of the two years 1831 and 1832, since the first preceded the cholera, and the second witnessed its coming.

The observations of 21 years, made at the Observatory of Paris, have shown, that in ordinary or average years there may be reckoned at Paris,

47	days of heat,
58	“ frost,
180	“ fog,
142	“ rain.

That the quantity of rain is 0 meter, 640 millimeters.

That the north wind blows during 45 days.

"	south	"	63	"
"	east	"	23	"
"	west	"	70	"
"	northeast	"	40	"
"	northwest	"	34	"
"	southeast	"	23	"
"	southwest	"	67	"
<hr/>				
				365 "

The average temperature of the year is  $10^{\circ} 81$  centigr.—It had however been remarked, that during the year 1831, there was an overplus of 85 foggy and rainy days, or nearly three months of the average, and that the wind blew from south to southwest 145 days instead of 130 as usual.

0 m. 611 mill. of rain fell instead of 0 m. 564 mill.

Lastly, the temperature rose to  $11^{\circ} 69$  cent., instead of falling  $1^{\circ}$  below the ordinary rate. Thus, the year 1831 had been more damp than dry, more warm than cold.

Incessant variations of the atmosphere, which caused the thermometer to fall or rise from 3 to 8 degrees in the space of a few days, or even in 24 hours, marked the course of the month of March of the year 1832.



The sky was almost constantly obscured by clouds, fog, or rain, and remained during that whole month dark and lowering.

The winds sometimes blew from the north and northeast, sometimes from the south, southwest and west, making the air alternately cold and sharp or soft and damp, when on the 26th of March the cholera appeared. The thermometer then indicated  $7^{\circ}$  75 centigr., and the wind was northwest.

Until the 12th of April, that is to say, during 17 days, it blew constantly from north and northeast, and it is known with what rapidity the epidemic attained its maximum of intensity about the 9th of April.

In that space of time, (if the 3d, 4th and 5th April be excepted,) though the thermometer rose suddenly from 15 to 17 degrees, the temperature changed only from 7 to 11 in travelling over the intermediate space between these two extremes.

After the 12th of April, and during the whole period of the months of May and June, it gradually reached 23 degrees (the 7th of May); three days afterwards (the 10th, 12th and 17th) it suddenly fell to 8 and  $7^{\circ}$  65, and rose afterwards to  $18^{\circ}$  (20th May). After that day it did not fall below 15 degrees.

In the meantime, the wind, that until the middle of April had remained constantly north, passed, the 16th, to southeast; the 24th it blew again from the north, and soon after varied successively from west to northwest, from east to southwest, till the end of the month.

From the first to the 20th of May, the wind blew sometimes southeast and southwest, sometimes north, northwest, west and east.

From the 21st to the 30th, it remained constantly north, northeast, and northwest.

Lastly, excepting the 16th, 17th and 18th of June, as well as the last five days of the month, when the same winds again prevailed, they blew from the south.

Under the influence of these atmospheric conditions, sometimes similar, sometimes different from those which had seen the coming and increase of the disorder, the violence of the cholera abated. Instead of 7 or 800 deaths per day, from 15 to 20 were numbered; but it was under the influence of a temperature of from 18 to 23 degrees, and of a wind blowing from the north and northeast, during the first five days of July; afterwards, from south and southwest, till the 14th, that the epidemic revived suddenly and the mortality increased from 20 deaths to 225 (the 18th July). Soon after, under

the same degree of heat, and with a wind from the northeast and northwest that blew constantly during the last half of the month, the evil lost again its energy and never recovered it.

It results from these details, that from the climate of Paris, whatever may have been the degree of temperature and the direction of the winds,\* the cholera derived neither relaxation nor activity, and that its action was entirely independent of the variation of the atmosphere. The same remarks were made at Warsaw and in Prussia.†

\* The year 1832 was particularly remarkable for the sharp and smart cold winter and the dryness of the summer.

† Dr. Brandin, who for a long time observed the progress of the cholera at Warsaw, thus speaks in the work he published upon that epidemic: "I have ascertained upon the clearest evidence, that the cholera may increase in intensity without being affected by any change of temperature, and that neither the nature of the winds nor their direction, nor difference of localities, influence in the least the activity of the epidemic, which seems to act independently of all variations of the atmosphere."—(*Del Cholera Asiatico.*—*Paris*, 1832.)

## CHAPTER VI.

## THE CHOLERA AS INFLUENCED BY LOCALITY.

IF it be true that changes of temperature, whether sudden or gradual, are without effect upon cholera, neither increasing nor diminishing its intensity, can the same be said of locality?

Man is powerless to arrest the lightest breeze of wind, nor can he prevent the least drop of rain from falling; but he knows how to build an abode that will shelter him at the same time from the effects of both, and that abode he is at liberty to erect in either a low or elevated spot; upon a soil dry or wet, protected or exposed to the sun or winds; isolated in its position, or surrounded by other habitations.

From the reunion of these different circumstances results for the individual a mode of existence more or less favorable to health, and expos-

ing him in a greater or less degree to the influence of disease, whatever may be its nature.

In writing the history of cholera, the question of locality was one of those that more specially arrested the attention of the Commission.

It thought it its duty to inquire in what various degrees the intensity of the disease had been felt—

1st. Within the 12 wards and 48 districts of Paris.

2d. How it had been influenced by their different exposures.

3d. How affected by the elevation or lowness of the soil, and

4th. Whether mitigated or increased by a lower or higher degree of dryness or dampness.

To arrive at a complete knowledge of these various subjects, the Commission engaged in the minutest inquiries with respect to the capital, its wards, its districts, its streets; they ascertained the extent of its waters, its population, its various kinds of industry, and lastly, its habits, manners and wants.

The general extent of Paris is as follows :

Earth, . . . . .	32,910,000 square metres
Water susceptible of evaporation, as the Seine, Bievre, Canal St.	
Martin, &c. . . . .	1,469,016
	<hr/>
	34,379,016

This estimate differs from the one found in the statistics of the Department of the Seine only by 17,784 metres, or one hectare and a half.

## I.

MORTALITY CAUSED BY CHOLERA WITHIN THE 12  
WARDS AND 48 DISTRICTS OF PARIS.

The deaths by cholera divide themselves between the 12 wards, in the following order, arising from the more or less loss they have experienced.

*Table of the repartition of deceases by Cholera, in the 12 Wards of Paris.*

Area of the Wards.	Males.			Females.			Total of the population.	Total of the deaths.	Proportion out of 1000.
	Population	Deaths by cholera.	Proportion out of 1000.	Population.	Deaths by cholera.	Proportion out of 1000.			
2	35,239	353	10.02	39,848	352	8.33	75,087	705	9.39
3	23,727	259	10.92	25,344	288	11.36	49,071	547	11.14
1	31,079	395	12.71	35,427	417	11.77	66,497	812	12.21
5	31,696	502	15.74	34,651	490	14.14	66,547	992	14.90
6	39,478	665	16.85	41,559	642	15.44	81,037	1,307	16.12
4	22,821	390	17.09	22,380	443	19.84	45,151	833	18.45
8	35,524	991	27.90	37,205	1,005	27.04	72,729	1,996	27.44
12	34,900	980	28.08	35,289	1,008	28.56	70,189	1,988	28.32
10	39,566	1,023	25.86	41,914	1,363	32.52	81,480	2,386	29.28
7	29,531	843	28.55	29,413	884	30.09	58,944	1,727	29.20
11	24,432	611	25.01	26,076	746	28.60	50,508	1,357	26.67
9	20,756	963	46.40	21,139	959	45.37	41,895	1,922	45.87
	368,940	7,975	21.62	390,195	8,597	22.03	759,135	16,572	21.83

It is remarkable that of these 12 wards the 6 first, or one half of them, fall under the average (21.23) and the 6 last above it. The wards that the epidemic seems to have treated with least severity, include the largest part of the city built on the right bank of the river, and which extends on the outside from Chaillot and the barrier of the Roule to that of Menilmontant, and in the interior, from the quay of Billy, the Champs-Élysées, and the left shore of the river to the streets of Saint Martin, of the Corderie, of Bretagne, and of Menilmontant, at the termination of which is found the barrier of that name.

Their population is 383,390 individuals, or a little more than the half of the whole population of Paris (759,135).

That portion of the population inhabiting the more exterior districts, lives on ground generally more elevated and open to the air. It is not much crowded, for each one occupies 540 square feet (57 sq. metres) of ground, average valuation; there were 2,482 deaths out of 185,956 inhabitants, or 13.34 in 1000 inhabitants.

The less exterior districts, occupying low and confined situations, and having a dense population of one inhabitant to every 113 feet of ground, lost by cholera, 2,714 inhabitants out of 197,414, or 13.74

in 1000. This mortality is about the same as that found in districts enjoying more air and space. Of the six wards in which the mortality rose much above the common rate, (being in the 9th, as high as 45 in 1000,) three, viz. the 10th, 11th, and 12th, constitute the southern part of Paris, lying on the left bank of the Seine. Their exterior districts, like those on the north side of the river, are elevated and open on all sides to the action of the winds; and the population is, taken collectively, 189,253, or one inhabitant to 777 feet of ground. Yet here the epidemic proved fatal in the proportion of 29.45 in 1000. The more interior or central districts, lost 31.08 in 1000, and this too with a population of much less density than that found in those districts where the loss by cholera was only in the proportion of 13.74 to 1000. To sum up, the number of deaths in the first six wards of Paris was 5,196 out of a population of 383,390 inhabitants, or 13.55 per 1000; the loss in the six last wards was 11,376 out of a population of 375,745, or 30.28 per 1000.

The cholera seems in its visitations to have struck these wards unequally, nor was it alone during the prevalence of this pestilence that this inequality was to be noted: observation having established the fact, that in ordinary times there are annually more deaths in the six first wards of Paris, than in the six last.



The former, lose commonly 1 individual out of 30; the latter, 1 out of 40.

## II.

### CHOLERA AS INFLUENCED BY DIFFERENCE OF EXPOSURE.

To ascertain what influence difference of exposure may have in diminishing or increasing the violence of cholera, it will not be amiss to recur to what has already been said respecting the elevation of the ground of the capital, from the banks of the Seine to the exterior barriers. It will be remembered, that the average height of the district of Saint-Thomas d'Aquin, below the bridge of La Tournelle, is 27 feet, and that of the Barriere-d'Enfer 111 feet; the sum of these two heights is 138 feet, or about the elevation of three ordinary houses placed one above the other.

As Paris occupies a kind of amphitheatre on both banks of the river, it follows that those districts which are nearest to the water and lowest in position, are partly sheltered by those immediately behind them, which, in turn, are covered by the districts which terminate at the Barrieres. Consequently such portions of the city as are situated at the northwest, north, and northeast, are open to the

winds blowing from the southeast, south, and southwest; and such other portions as face southeast, south, and southwest, are exposed to the winds from the northwest, north, and northeast.

According to the calculation first made, the average of deaths in the twenty districts exposed to winds from the southeast, south, and southwest, was 12.07 in 1000; in the nine districts open to the northwest, north, and northeast winds, 28.46; and in those facing the east or west, the proportion appears to be the same as the last, 28.54 and 28.50.

It would seem therefore that the northwestern, northern, northeastern, eastern, and western exposures were more liable to cholera than southwestern, southern, and southeastern.

Desirous however of throwing more light upon this question, the Commission sought its solution in another way: it believed that the double line of houses which border the quays and exterior boulevards of the city, were sufficiently extensive and open to the air, and presented exposures sufficiently satisfactory to answer the purpose required.

On the quays, it was found that southern exposures had suffered most; and the boulevards presented a similar result (14.16 and 14.19 in 1,000). Thus the second calculation contradicted the first.

The Commission learnt also that Messrs. Rochoux and Dupuytron had observed, that a larger number of cholera-patients were to be found in the wards of Bicêtre and the barracks at Courbevoie, which are open to the south and north, than in any other having an eastern or western exposure.\* It was now resolved to try a third calculation. The affidavits of deaths made by ward physicians always state the exposure of the room in which a patient died; the Commission sought new light by consulting the register.

Of 11,168 deaths by cholera occurring in private dwellings, there

happened in rooms having northern, northeastern, and northwestern exposures,	-	-	3,141
Eastern,	-	-	2,053
Western,	-	-	2,029
Southern, southeastern, and southwestern,	-	-	3,768
Unascertained,	-	-	177
			<hr/> 11,168

Here again it was found that a southern exposure was more fatal than any other. The fact seemed positive, incontestable, yet a single observation sufficed to destroy it: it was possible that, owing to one cause or another, there were

\* *Notice sur le cholera.* By M. Rochoux, M.D.

in Parisian houses more bedrooms facing the south and north, than the east and west. It was now determined to recur to the bills of mortality of the preceding year, and if the number of deaths occurring in the various exposures, presented the same difference, the cholera could no longer be regarded in 1832 as the cause of an inequality which already existed in 1831. Verification was made upon the six months of that year, corresponding with the six epidemical months of 1832. We subjoin the result : out of 7,565 deaths,

1,975	occurred in northern, northeastern, and northwestern exposures.
1,349	“ eastern.
1,588	“ western.
2,436	“ southern, south-eastern, and south-western.
208	unascertained.

In 1831, as in 1832, the different exposures seem to have kept between them the same relative proportions. The south and north number two-thirds of the deaths, the west a fifth, and the east about a sixth. From the above facts, the Commission does not feel warranted in drawing any conclusion. They will simply remark, that the greater or less degree of mortality in any given district, most frequently depends on the character of the population that inhabits it.

## III.

## THE CHOLERA AS INFLUENCED BY ELEVATION OF SOIL.

Paris was originally built on an island in the river Seine ; and by degrees extended itself over the hills which bound on the north and south the valley through which the river flows. The greatest height of these hills is 117 feet, and their descent is gradual to the margin of the stream. The most elevated of the city districts is that of the Observatory on the left bank of the river. The suburb of Montmartre, occupying the highest point on the right bank, is but 76 feet above the level of the water.

The following table presents the 48 districts of Paris, placed according to an approximative estimate of the elevation of each above the bridge of La Tournelle.

Names of the Districts.	Average height of the Districts.	Names of the Districts.
<i>Right Bank.</i>		<i>Left Bank.</i>
	30 met. or 92 ft.	Observatory.
Faubourg Montmartre.	26 " 80	
" Saint-Martin.	24 " 74	
" Poissonnière.	23 " 71	
	22 " 68	Luxembourg.
	21 " 65	Saint-Martin.
" Saint-Denis ; Champs-Élysées. }	20 " 62	
	20 " 62	Sorbonne.
Chaussée d'Antin.	19 " 59	
Roule ; Bonne-Nouvelle.	18 " 55	
Popincourt.	17 " 52	
Faubourg Saint-Antoine.	16 " 49	
Temple.	16 " 49	
	15 " 46	Garden of Plants.
Quinze-Vingts.	14 " 43	
Arcis.	12 " 37	
	11 " 34	
	11 " 34	{ Faubourg Saint-Ger- main. Invalides.
Marchés ; Banque ; Sain- te Avoie ; Mont de Piété ; Feydeau ; Pa- lais Royal ; Marché- Saint-Jean ; Mail ; Louvre ; Montmartre ; Arsenal. }	10 " 31	{ Isle Saint-Louis ; Pa- lais-de-Justice.
Place-Vendôme ; Saint- Eustache ; Lombards ; Marais ; Saint-Honoré ; Montorgueil ; Porte Saint-Denis ; Saint- Martin-des-Champs. }	9 " 28	{ Monnaie ; School-of- Medicine ; Saint-Tho- mas-d'Aquin ; City.
Hôtel de Ville.	8 " 26	Thuilleries.
Level of the Seine.		

The highest of the city districts, the elevation of which is from 52 to 92 feet, contains together a population of 249,165 inhabitants, of which 4,624, or 18.55 in 1000, died of cholera. The lowest districts, the average height of which is 28 feet above the level of the river, lost out of a population of 242,111, 5,715 individuals or 23.60 in 1000. Consequently the advantage offered to the Parisians by a residence in one of the higher districts, resolved itself into an exemption from the cholera, in the proportion of 5 in a 1000—an advantage much less considerable than is generally supposed.

Let us examine the subject in all its details :

If we compare particular districts, placed at different heights—such for instance as Faubourg St. Martin, the elevation of which is about 74 feet, and the districts of Montmartre and Feydeau, both 34 feet lower—it will be remarked that the first lost 14 inhabitants in 1000, and the second and third only 10 and 9. In this case, the lowest locality appears to have been the most highly favored. Taking the two extremes of the scale, and comparing the district of the Observatory, 92 feet high, with that of the Thuilleries, 26 feet, the same result will be found : the mortality at the Thuilleries was 9 in 1000, that of the Observatory 16. If

districts be selected, the level of which is the same, and where similarity of position may seem to warrant similarity in mortality, great differences will be discovered. The Thuilleries numbered but 9 deaths in 1000, the Hotel de Ville 53. The Faubourg St. Denis, the Champs-Élysées, the Sorbonne, (all of the same elevation of 62 feet,) numbered 17, 19, and 29 deaths in 1000. Lastly, the Lombards, Marais, Place Vendome and city, (four districts each of which are 28 feet above the level of the river,) showed a mortality of 23, 31, 8 and 52.

Suspecting that such different results arose out of error in the premises forming the basis of their calculation, and thinking too that the comparisons of mortality in the wards were but averages furnished by reports as various as the localities which produced them, the Commission sought in the localities themselves a solution of the question. There the conditions that were supposed to affect the intensity of the disease, were most clearly pronounced, and therefore most easy of demonstration. Taking the streets leading to the hills which close at the north and south the valley of the Seine, the Commission first counted the population existing in them, and then ascertained the number of deaths occurring in these streets from the spot where the



ground begins to rise, to the barriers forming this terminus. The streets alluded to have an elevation varying from 77 to 128 feet, and may be considered the highest points in Paris.

The numbers obtained were then compared with those furnished by an equal number of streets situated from 15 to 30 feet above the level of the river, and including the lowest parts of the city. The results are as follows :

On the left bank, 17,276 inhabitants, 521 deaths, 30.15 of 1000.					
On the right bank, 36,006	do.	981	do.	27.23	do.
<hr/>		<hr/>		<hr/>	
53,282		1,501		23.18	

*Summary.*

High localities, 53,219 inhabitants, 1,118 deaths, 21.00 of 1000					
Low do.	53,282	do.	1,502	do.	23.16 do.

Difference in favor of the first, 7.119 out of 1000.!

IV.

THE CHOLERA AS INFLUENCED BY HUMIDITY.

Low ground is naturally more damp than that which is elevated. What has been said with respect to the last is equally applicable to the first, and the question how far cholera is influenced by dampness, may be considered as already solved in the preceding section. Nevertheless, the Com-

mission thought it proper to enter into further details.

There are many cities built on low, marshy ground, the surface of which, partly dried by the summer heat, gives forth in autumn constant exhalations, productive of intermittent fevers. It may be, that under the influence of like causes, the cholera assumed a higher degree of activity, and that its malignity was more fully developed amid the canals of Holland and swamps of Poland. It has been said that at Moscow, the lower part of the city, situated on a sort of peninsula formed by a bend of the river, was most fiercely assailed; and that at Breslau, the greatest mortality was found in the suburb of the Oder, the low and swampy position of which had always proved a prolific cause of fever.

But the soil in and about Paris offers nothing of this extreme character, and when we speak of humidity of certain quarters of the city, or of particular streets, it is in a limited sense. It is true that some streets are unpaved and muddy; that others are narrow, obscure, and deprived of free circulation of air; and that the pavement of others, from various causes, is more retentive of moisture than it should be. The districts where such streets are found, are the dirtiest and dampest in

Paris, yet it has not been observed that the inhabitants are more liable than their neighbors to fevers, or to those diseases of the viscera, supposed to be common in wet and marshy grounds.

The Commission sought to ascertain the degree of violence manifested by the epidemic in those streets generally regarded as the narrowest, dirtiest, and most unhealthy in the capital. To this end fifty streets were selected, and the number of deaths that occurred in them, was compared to the number which occurred in fifty other streets, superior in width, cleanliness and general salubrity.

In the streets first named the mortality, occasioned by cholera, was 33.87 in 1000; in the second only 19.25; presenting a difference of more than one half. Of the dirty and narrow streets, 26 show a mortality above the average rate (24 in 1000); of the wide and better ventilated streets, 9 only offer a similar excess.

The Commission has added, as a subject of curious speculation, the number of deaths which took place in the different stories of houses, during the 6 cholera months of 1832, as compared with the number of deaths in the 6 corresponding months of the preceding years.

It will be seen with surprise that the basements and entresols offer a greater number of deaths than

the 4th, 5th and 6th stories, but a much smaller number than the 1st, 2d and 3d stories. This certainly would not be the case if we were to carry to the account of each story the number of deaths occurring among those who left it to die in the hospitals. At all events, there exists in the two years so equal a proportion between the deaths, that it is not possible to trace the effect of any particular disease.

	1832.		1831.	
	Deaths by cholera.	Proportion in 1000.	Ordinary deaths.	Proportion in 1000.
Ground floor (entre-sols),	1566	14.08	1113	14.73
First stories, . . . .	2808	25.14	1917	25.37
Second " . . . .	2264	20.27	1543	20.42
Third " . . . .	2023	18.21	1293	17.11
Fourth " . . . .	1375	12.11	926	12.25
Fifth, 6th, and 7th stories,	962	10.13	618	8.17
Undetermined, . . . .	170	. . .	146	. . .
Total, . . . . .	11168		7556	

It has been said that cholera was most prevalent in the neighborhood of rivers, and followed their course; and this circumstance has been cited as a proof of the influence exercised upon it by humidity. The fact, however, though it may have been observed elsewhere, is not confirmed by Parisian experience. The districts coming in contact with either the current or the surface

of evaporable waters, such as the Seine, the Bièvre and Saint-Martin's Canal, are 10 in number. The following table will show the relative proportion between the surface of water and the superficies of land in each district, and also the relative proportion between the number of deaths by cholera, and the population of each district.

Wards.	Square metres of superficies of water.	Proportion with the ground.	Proportion of deaths by cholera to the population.
9	604,000	$\frac{4}{5}$	45.87
4	108,000	$\frac{1}{3}$	18.44
10	630,000	$\frac{1}{9}$	29.20
11	231,000	$\frac{1}{10}$	26.86
12	403,600	$\frac{1}{10}$	28.32
1	523,200	$\frac{1}{10}$	12.21
7	40,000	$\frac{1}{20}$	29.29
8	258,400	$\frac{1}{23}$	27.44
5	48,600	$\frac{1}{45}$	14.90
6	21,600	$\frac{1}{77}$	16.12
2	. . . .	. .	9.39
3	. . . .	. .	11.14

Here the average of deaths is 29 in 1000, a mortality much less serious than that before stated as occurring in narrow, dirty streets. The average would be still less if we were to deduct from the account of these districts the number of deaths which took place in those of the Hotel de Ville and the Cité, a deduction the more proper as the excessive mortality which reigned in these districts was the result of

causes peculiar to themselves. Ten of the twenty districts fall below the average, and of these the greatest sufferers are not those most abounding in water. Taken together, they offer 329,000 metres of evaporable surface, and 3,240 deaths, whilst others give fewer deaths (1,530) and a much greater quantity of water (857,800 metres). Besides, it is as impossible to detect, in the midst of a series of continually varying relations, any tendency to increased mortality, as it is easy to recognize it in narrow and filthy localities.

But there is an easier way of settling the question. No habitations are more in contact with the humidity caused by the evaporation of water, than those placed on the banks of the river. To the details already given on this point, the Commission subjoin the following :

	Inhabitants.	Deaths.				
Banks of the Seine,	10,662	313	or	29	in	1000
Banks of the Bièvre,	3,486	80	or	23	“	
Banks of St. Martin's Canal,	2,070	34	or	16	“	
	<hr/>	<hr/>		<hr/>		
	16,221	426		26.26		

It has been said that the average mortality in the elevated districts of Paris was 23 in 1000;\*

\* 19 localities out of 41 are below that average.

consequently the effect of evaporable waters on the development of cholera has been to augment its mortality in the ratio of 3 in 1000.

## CHAPTER VII.

## OF CHOLERA AS INFLUENCED BY DENSITY OF POPULATION.

It has been seen that Paris covers a surface of 34 millions of square metres (3,438 hectares). Such is in our days the extent of a city, which, at its origin, was included within the limits of an island containing a territory of but 15 hectares.

Since the first day of its foundation the capital has continued to increase. From age to age each succeeding sovereign enlarged its boundaries, but a growing population still found itself ill at ease. Louis XIV. fixed its limits within that chain of ramparts which, beginning at the gate of St. Antony, ends at the gate of St. Honoré; since that time, scarcely a century and a half have passed away, and those bounds have become part of the centre of the capital and one of its finest promenades. Even now, Paris, surrounded by walls more than six



leagues in circumference—Paris, two hundred and thirty times larger than it was in its infancy—tends daily to an enlargement of its limits.

When will this continued development cease to be operative? Only when the population, now massed together within the city in a proportion of 228 inhabitants to each hectare, are able to breathe more freely. Nor does the above number, though exhibiting a rate of population four hundred times greater than can be found in the rest of France, express the highest degree of concentration of human life existing in Paris, since there is a district where a single hectare contains more than 1500 inhabitants.\*

The question now to be determined is, how far the cholera was influenced by density of population?

To solve this question we must recur to the examination of wards, districts, streets, and even houses; we must again present calculations, tables, &c., differing only in their details, and requiring in their exposition a constant recurrence to the same forms of phraseology. Were we to rely alone on what took place in the wards, we would be led to

\* The Arcis; it belongs to the 9th ward and contains 10,602 inhabitants in 7 hectares, or 1,515 for each hectare. (*See Map.*)

believe that the severity of the disease was neither increased nor diminished by the union of a greater or less number of individuals on any given space. The 12 wards of Paris are classified in the following manner, as regards extent of territory and amount of population.

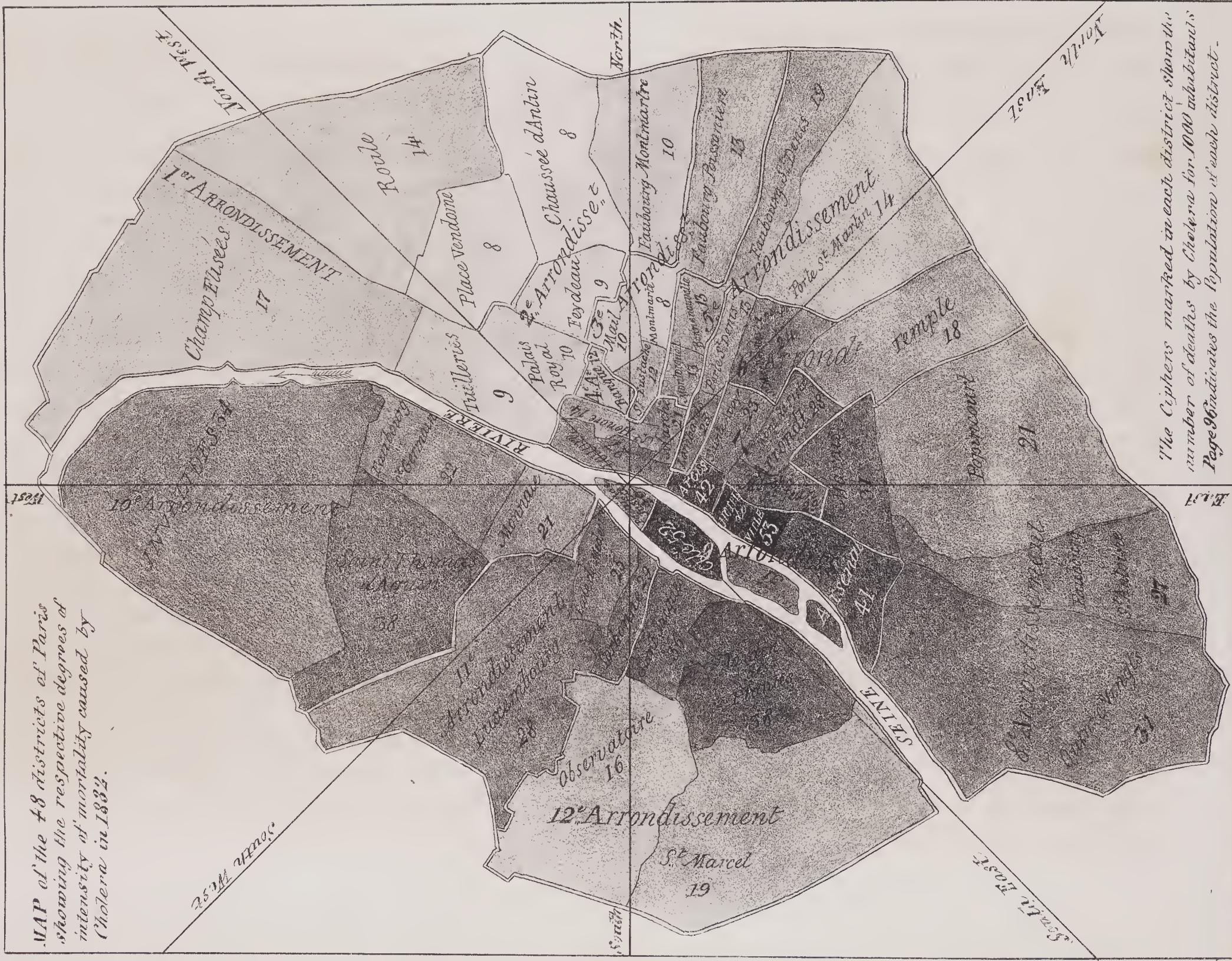
Number of the Wards.	Superficies of territory in square metres.	Population.	Number of square metres for each inhabitant.	Number of deaths by cholera.	Proportion of deaths to 1000 inhabitants.
8	6,110,000	72,729	84	1906	27.44
1	5,550,000	66,497	83	812	12.21
10	5,300,000	81,480	65	2386	29.20
12	4,140,000	70,189	59	1988	28.32
5	2,350,000	66,547	35	992	14.90
2	2,320,000	75,087	31	705	9.39
11	2,090,000	50,508	41	1357	26.86
6	1,670,000	81,037	21	1307	16.12
3	1,250,000	49,071	25	547	11.14
9	840,000	41,895	20	1922	45.87
7	730,000	58,944	12	1727	29.29
4	460,000	45,151	12	833	18.44
Total,	32,910,000	759,135	43	16572	21.83

24.68 to 1000 was the rate of mortality in the 8th, 1st, 10th, and 12th wards, which include two-thirds of the city, and contain a population of 290,000 inhabitants, being one inhabitant to 72 square metres. The 6th, 3d, 9th, and 7th possess a population of 276,098 individuals who occupy but one-seventh of the city (five millions of square metres),

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MAP of the 48 districts of Paris showing the respective degrees of intensity of mortality caused by Cholera in 1832.



The Ciphers marked in each district show the number of deaths by Cholera for 1000 inhabitants. Page 96 indicates the Population of each district.



or 18 metres to each inhabitant. In these wards the average mortality was 22.94 in 1000.

Taking each ward separately we find still less relation between the number of deaths and the extent of population.

In the 1st and 8th wards, where there are 84 and 83 square metres of ground to each inhabitant, the loss varied from 12 to 27 in 1000. In the 7th and 4th, where the rate of population is one individual to 12 metres of ground, the mortality was from 18 to 29 in 1000. It was also 29 in the 10th, where 65 metres are reckoned for each person.

Thus it appears that the less populous wards are not those where the smallest number of deaths have occurred.

The following is the order that the mortality followed in the 48 districts of Paris, where the division of the soil among its occupants offers other proportions than those above stated.

In the wards in fact, the largest allotment to each inhabitant is 84 square metres—the smallest 12 metres.

On the contrary in the districts, the inhabitant the best off, enjoys a space of 190 square metres; in those where he is worse off, he has but 7, or a little more than three times the space required for a grave.

The general average of the districts, as well as that of the wards, is 43 square metres of ground to each inhabitant.

16 districts fall below this average.

In those districts where are counted from 45 to 186 square metres to each inhabitant, the average of deaths by cholera was 22.19 in 1000.

The districts below 43 metres to each inhabitant are 32 in number.

In these last districts were numbered 21.62 deaths in 1000; and there the inhabitant had but from 7 to 42 metres of space. Where the average space was from 45 to 186, the loss was 22.19. In this second division of the soil of Paris, the spacious, extended localities seem to have had less advantage than the narrower localities. One district, having but 7 metres to each inhabitant, (les Arcis,) furnished 42 deaths in 1000, and one other (les Marchés) had 21 with the same extent of soil. Saint-Thomas-d'Aquin, having 55 metres to each individual had 38 deaths; the Invalides, 34 with 147 metres; the district of Feydeau 9 and 21 metres; and that of Montmartre 8 for a lesser space yet, 15 metres.

In streets, as in wards and districts, the disease maintained the same characteristic, of confounding in an equal mortality localities, having nothing in

common between them but this unlucky similitude. Out of 1,292 streets, 1,105 were indiscriminately afflicted ; 187 only remained unscattered.

The truth is that no comparison can be made, no identity established as far as regards salubrity, ventilation, and manners of life between the population of those various streets.

Shall we then refer to houses for an answer to the question ?

Many of these numbered 4, 5, 6, deaths, and some of them as many as 8, 9, 10, and 11. All without exception, were situated in the worst districts, or in the worst streets of the best districts, and their inhabitants were among the most wretched in Paris, huddled together in small rooms where they had scarcely 3 metres of space per individual. Nos. 24 and 26 of Marmousets-street, where the deaths were 2 ; at No. 126 of Saint-Lazarre-street, where 492 individuals have not the space of a metre per man,\* the unfortunate tenants do not obtain in sufficient quantity the corrupt air they breathe. The Commission would mention other instances ; they could point out many houses where the lodgers are kept by the night ; those, the stories of which are multiplied beyond all proportion, or

\* That house has had nine deaths.

the rooms badly distributed, deprived of air, and kept in a filthy condition : all these would tend to show that except in a very limited number of cases where the intensity of the cholera seems to have been great, without cause, such as at Grenelle, Gros-Caillon, and in the neighborhood of the Military School ; or again where the disease suddenly burst forth at the same time upon many points, where a miserable population was heaped up in dirty and narrow lodgings, there the epidemic found the greatest number of victims.\*

The Commission must here express an opinion which the readers of this report have perhaps foreseen. Seeing the epidemic sometimes destructive in high places, sometimes equally so in low situations ; or manifesting its power in localities differing from both ; observing these continual contrasts and variations, the Commission could but suspect the existence, in this kind of disorder, of an element of perturbation present at all times and places, nor could they believe that this element was other than that of population, which complicates every result in the calculation of which it enters.

\* "The epidemic visited usually the dark and filthy damp houses situated in low streets, little accessible to the sun and the wind."—*Considerations sur la nature and le traitement du Cholera-morbus*, by Chevalier de Kerckhowe, Membre de la Commission Médicale d'Anvers.



What took place at Breslau, a city of 90,000 souls, lends to this opinion new strength. When the disease appeared, clothing, fuel and food were distributed to the poorer classes ; their habitations were purified ; families that were too numerous and crowded in narrow rooms were divided, and, by these means, if the ravage of the cholera was not entirely prevented it was at least essentially diminished.

In Paris two companies of Sapeurs-Pompiers, (firemen), making together 300 men, were gathered at the barracks of the Vieux-Colombier-street, in rooms large enough perhaps, but the windows of which, opening only on one side, gave to the air no free circulation and rendered its renewal difficult. The pestilence spread itself rapidly among these men. In the first days of April, 17 were attacked and 11 died. The two companies were immediately separated, and from that moment the mischief was checked.

It was also remarked that the German colonies established in Gallicia were indebted to their habit of diet and cleanliness, which distinguish them from the Slavian population, for their exemption from disease in the midst of infected Polish villages (*histoire du choléra en Russie*).

Knowing those facts, it has been impossible for

the Commission not to believe that there exist a kind of population as well as a certain nature of localities, which favor the progress of cholera and add to its fatality. These causes appear to be more formidable than any variations of temperature, direction of winds, exposure of ground, or even than the greater or lesser degree of elevation, lowness, dryness, or humidity of the soil. The action of cholera has therefore been like the action of other diseases, but in a manner peculiar to itself, that is to say, killing by the thousand and in twenty-four hours.

## CHAPTER VIII.

## OF THE INFLUENCE OF PROFESSIONS, MORAL AFFECTIONS, AND REGIMEN, ON CHOLERA.

THE researches of the Commission, the facts noticed by them, and the results obtained by comparison, seemed to indicate that to the physical causes which might have concurred to develop the epidemic, was to be added the influence of another more general in its effects, by which they all were modified. The influence alluded to was that caused by the different professions and pursuits of the victims of the disease. In order to examine and appreciate its effects, it became necessary for the Commission to extend its investigations to individuals, and to ascertain their trades, their manners of life, their habits.

It has been seen that the number of persons who died of cholera, since its first appearance until

and including the 30th of September 1832, in Paris, was 18,402.

This number is distributed among the several professions, as follows :

1st class, 2073	{ Persons of all ages and sexes belonging directly or indi- rectly	{ to the Liberal professions.
2d class, 1816	"	{ Commercial professions.
3d class, 6523	"	{ Mechanical professions.
4th class, 4180	"	{ Salaried pro- fessions (or wages).
5th class, 1034	"	{ Military pro- fessions.
983	{ Children of both sexes, the profession of whose parents has not been ascertained.	
1793	{ Of both sexes, whose profes- sions were unknown.	
<hr/>		
Total,	18,402	

If we subtract the 5th class, which will form the subject of a separate chapter, and the 2,876 persons whose profession was unknown, there will remain 14,592, which are distributed in the 4 first classes.

The question arises, are the deaths occurring in each of these classes in proportion to their relative number, or do they show that one class has

been more afflicted than another? Unfortunately no census has hitherto been able to afford exact information of the number of persons engaged in each profession.

In order to supply as much as possible the absence of so important a document, the Commission has thought that by making a table, upon the same principle, of the professions of the individuals deceased during the six corresponding months of 1831, and comparing its results with those of the table of 1832, that comparison would indicate the influence of the cholera upon mortality in those professions.

This new document has been made out from the first of April to the 30th of September, inclusively, and it gives 12,268 deceased.

Out of that number, 842 belong either directly or indirectly to the military class; these we will not now consider.

The trades of 2,488 have not been ascertained; there remains only 8,938 individuals whose professions are unknown, and which are divided in the four following classes.

1st class, 1624 deceased belonging to Liberal professions.		
2d class, 871	do.	Commercial professions.
3d class, 4328	do.	Mechanical professions.
4th class, 2115	do.	Waged professions.
<hr/>		
Total, 8938		

Now are these numbers in proportion to those presented by the tables of deaths by cholera? The particular examination of each class will inform us.

# I.

## EXAMINATION OF CLASSES, AND OF THE PROFESSIONS OR TRADES WHICH COMPOSE THEM.

The first class seems to have been less severely visited by the cholera than by the ordinary mortality. The second more so.

The examination of that class shows that that result is owing to the fact, that those professions are practised in the interior of houses, and that they suppose a comfortable life, and therefore exhibit but a small number of deaths. The case is reversed with those concerned in trade in articles in damp and unwholesome places, in the open air, or displayed in the public streets.

Thus, among the following professions the cholera has made fewer victims than the ordinary diseases.

PROFESSIONS.	1832.		1831.	
	Deaths by cholera.		Deaths by ordinary diseases.	
	Number.	Per 1000.	Number.	Per 1000.
Drapers, . . . . .	5	3	6	7
Furniture merchants, . . . .	16	8	16	20
Linen merchants, . . . . .	6	3	5	6
Wine merchants, . . . . .	140	76	91	100
Thread and needle dealers, .	25	14	25	30
Grocers, . . . . .	58	32	62	70
Fruit stores, . . . . .	82	45	43	50
Booksellers, . . . . .	15	7	19	20
Hardware-men, . . . . .	5	3	7	8

The following professions have given an entirely different result :

Inkeepers, boarding-house keep- } ers, and lodgers, }	123	68	27	31
Dealers in old books, . . . .	4	2	1	1
Lumbermen in lumber-yards,	35	19	12	10
Vegetable dealers, . . . . .	166	91	49	60
Poultry dealers, . . . . .	19	10	3	3
Graziers, . . . . .	10	6	2	1
Blacking sellers, . . . . .	15	8	1	1
Old clothes brokers, . . . .	74	40	26	30
Crockery dealers, china ware, .	10	6	1	1
Pie dealers, . . . . .	22	12	4	5
Dealers in clothing, . . . .	15	8	4	5
Dealers in female cast-off clothing,	5	8	5	5
Refreshment dealers, . . . .	11	6	1	1
Marketmen, . . . . .	21	11	3	3
Fish dealers, . . . . .	31	17	4	4

The third class seems to have experienced a less fatal influence. It will be observed that a certain number of professions which compose it, present, more particularly at the two epochs, different results.

Three professions, that have proportionally numbered a much greater number of deaths by cholera than by ordinary diseases, are exercised in the open air.

PROFESSIONS.	1832. Deaths by cholera.		1831. Deaths by ordinary diseases.	
	Number.	Per 1000.	Number.	Per 1000.
Washerwomen, . . . . .	533	37	277	25
Masons, . . . . .	351	24	140	16
Mattress-makers, . . . . .	80	6	26	3

And nine professions, which present a result directly opposed to the last, are exercised in the interior of habitations.

Jewellers and silver-smiths, . . . . .	141	10	115	13
Cabinet-makers, . . . . .	111	8	109	12
Joiners, . . . . .	291	20	206	23
Shoemakers, . . . . .	459	32	344	35
Dress-makers, . . . . .	665	46	491	55
Flower-makers, . . . . .	21	1	24	3
Shirt-makers, . . . . .	99	7	149	16
Milliners, . . . . .	10	1	44	5
Tailors, . . . . .	305	11	275	31

Lastly, the influence of the cholera on the fourth class appears to have been stronger than that of ordinary diseases. Among the professions composing it, a very small number exhibits an equality in the number of deaths at the two epochs, and in almost all of them is remarked a constantly increasing mortality by cholera; and



some are especially distinguished by the different results they present, viz. :

Two professions have had a smaller number of deaths by cholera than by ordinary diseases :

PROFESSIONS.	1832. Deaths by cholera.		1831. Deaths by ordinary diseases.	
	Number.	Per 1000.	Number.	Per 1000.
Coachmen, . . . . .	140	10	104	12
Servants, . . . . .	616	42	403	55

Fifteen professions present a different result from the preceding one :

Street-sweepers, . . . . .	37	3	10	1
Boatmen, . . . . .	28	2	9	2
Charcoal-men, . . . . .	74	5	31	3
Rag-pickers, . . . . .	62	4	9	1
Public porters, . . . . .	194	13	90	10
Cooks, . . . . .	295	20	153	17
Clerks of the markets, . . . . .	48	3	4	0.44
Nurses (for children), . . . . .	29	2	6	0.67
Nurses (for sick people), . . . . .	77	5	35	4
Infirmiers (male nurses in hos- pitals), . . . . .	38	3	14	2
Persons working by the day, . . . . .	1171	80	588	66
Water-carriers, . . . . .	89	6	49	5
Door-keepers, . . . . .	496	34	231	26
Knife-grinders, . . . . .	9	0.62	1	0.11
Laborers, . . . . .	54	4	20	2

## II.

EXAMINATION OF THE INFLUENCES UPON CHOLERA OF  
THE CIRCUMSTANCES UNDER WHICH THE VARIOUS  
PROFESSIONS ARE EXERCISED.

The Commission had to seek what had been the influence of the cholera upon the 14,592 deceased, as affected by the circumstances under which their various professions were exercised by them; that research has rendered necessary a new classification, in which they have been grouped together according to those circumstances; it is to say :

1. Professions protected by shelter from the changes of air, distinguishing between those that are particularly sedentary, and those which require a frequent contact with the patients, number of deaths, . . .	9790
2. Professions in open air, deaths, . . . . .	2982
3. Professions in damp places, upon the river, or making a constant use of water, . . . . .	1258
4. Professions tending to infect the air breathed, by those who exercise them, . . . . .	562
	<hr/>
	14592

The same classification has been made also for the 8,938 persons who died during the six corres-

ponding months of the year 1831 ; it has given the following divisions :

1.	-	-	-	-	-	7329
2.	-	-	-	-	-	928
3.	-	-	-	-	-	467
4.	-	-	-	-	-	214
						<hr/>
						8938

The persons who professionally were near the sick, experienced a greater loss by 378 thousandth, than they had experienced in 1831 ; but it must be borne in mind that that increase was chiefly caused by the extraordinary augmentation, which the epidemic rendered necessary, in the number of those who devote themselves to the sick, a circumstance without which we cannot believe that this difference would have been perceptible. In fact, out of 2035 persons specially employed in attendance on cholera-patients, in the civil hospices and hospitals of Paris, permanent as well as temporary, 138 were seized with cholera and 45 died ; that is to say 1 patient out of 15, and 1 death out of 45, or 22.11 out of 1000, a proportion that scarcely goes beyond the average mortality of the inhabitants of Paris (21.83), and which is more favorable than the general average in reference to

the whole population of Paris, 1 death out of 42 inhabitants, or 23.42 out of 1000.\*

The differences that the compared reports of 1832 and 1831 present, demonstrate with force that the exercise of professions not exposed to alternations of temperature, was particularly favorable to those who enjoyed that advantage.

It has been alleged that mental emotions aggravate, in many cases, the condition of the sick, and even produce the disease; excess of labor, strong passions, unexpected griefs, all moral affections, and above all, fear, have been regarded as causes of cholera.

The Commission admit the rapid and powerful action of moral affections upon human organs, and the pain and disorders of all kinds that they can

\* More favorable proportions have been noticed in different countries. At Revel, out of 113 persons attached to the service of the hospital, only 2 have been attacked, 1 male and 1 female nurse, and their conduct was nothing less than regular. (Gaimard and Girardin, page 19.)—At Saint Petersburg, out of 58 persons attached to the temporary Hospital of Admiralty, a single one fell sick from having drank some cold Kwas when he was warm; he recovered. (Same; page 38.)—Out of 123 attached to the Hospital at Moscow, 2 only were attacked. (Same; page 39.)—Out of 253 individuals belonging to the service of the cholera-patients, at the Marine Hospital of Cronstadt, 4 only were struck—in the Bengal, out of 250 or 300 health officers, of whom the most part had seen many sick, 3 only were struck by cholera, and but one of them died. (Report of Dr. Charles MacLeon, *sur les lois de quarantaine.*)

create ; they acknowledge the alliance between our physical and moral nature,—an alliance proclaimed without contradiction, by the voice of ages ; they will not deny that in many instances the fear of disease may have brought it on, but they could also refer to many instances where fear produced no evil effects.

Certainly, if there be any thing capable of diffusing in the highest degree terror throughout a numerous population, it is a battle fought in its midst ; it is the sound of the cannon in the streets ; the showering of bullets and grape-shots ; the spectacle of dead, dying and wounded ; the fear of incendiarism, of plunder, of violence, of all the crimes prevalent at such a time. The Commission carefully examined the progress of the cholera in those places that were theatres of the events of the 5th and 6th June, and they noticed at that time no increase of disease nor of deaths in the houses of the street Saint Méry.\* It is only from the 18th day of June, that is to say 12 days afterwards, that the first symptoms of recrudescence began to appear. Until then the entries in the hospitals maintained themselves at 11, 14, and 20 per day.

Lastly, another point of hygiene appeared to

\* It was during these days that Paris was put in état de siège, by Louis Philippe.—*Note of the Translator.*

the Commission worth studying; that is, the influence exercised upon the disease by the Sunday and Monday's excesses of the working classes. It is known that during these two days, they have the deplorable habit of changing a necessary rest to a pernicious idleness, and that their want of foresight, careless of the fact that the enjoyment of to-day will call for deprivation to-morrow, squanders in a few hours the earnings of the week.

The Commission thought that the number of cholera patients admitted each day into the hospitals, during the whole duration of the epidemic, would furnish an indirect means of measuring the influence that intemperance may have had, as regards the population received in those establishments.

The result of the investigation is found in the following table :

ADMITTED BY MONTH.			ENTRIES BY DAYS OF THE WEEK.			Average of daily entries.
Months.	Number of		Days of the week.	Number of		
	the days.	the sick.		the days.	the sick.	
March,	6	203	Sundays,	27	1833	67.88
April,	30	8934	Mondays,	27	2075	76.85
May,	31	1293	Tuesdays,	27	1947	72.11
June,	30	635	Wednes's,	27	1978	73.26
July,	31	1576	Thursd's,	27	2004	74.22
Aug.,	31	808	Fridays,	27	1971	73.00
Sept.,	30	328	Saturdays,	27	1969	72.92
Total,	189	13777	Total,		13777	

This table shows :

1. That during the 189 days, which from the 25th of March to the 30th of September make the whole epidemical period, each day of the week recurs 27 times.
2. That in dividing the number of cholera patients, admitted in the civil hospitals and infirmaries of the hospices, (13,777,) by the number of days noticed (189), we find that 72.36 cholera patients per day have been admitted, on an average, in these establishments.

3. If afterwards we examine what has been the number of admissions for each day of the week, separately, we find :

For 27 Mondays,	-	-	-	-	76.85
For 27 Tuesdays,	-	-	-	-	72.11
For 27 Wednesdays,	-	-	-		73.26
For 27 Thursdays,	-	-	-	-	74.22
For 27 Fridays,	-	-	-	-	73.00
For 27 Saturdays,	-	-	-	-	72.92
For 27 Sundays,	-	-	-	-	67.88

That is to say, the maximum of admissions has been on Mondays, and the minimum on Sundays.

Perhaps this excess of admissions into the hospitals on a particular day of the week would have been more marked in Paris, if the rapidity with which, at the first invasion, the victims of intemperance were struck down had not made it often impossible to carry them to those establishments, and if sometimes families, actuated by the fear of poisoning, and of typhus fever, had not prevented the transfer of their sick.

Moreover, the Commission is not ignorant that a similar effect was before noticed in ordinary times and free from all epidemical influence ; and that it has been considered as an established fact, that the admissions in hospitals are generally more numerous on Mondays than on any other day of the week.



## CHAPTER IX.

## OF THE EFFECTS OF CHOLERA ON THE MILITARY.

WE have considered in the preceding chapters the effects of cholera upon the population of a large city, a mass of individuals of each sex, of all ages, and of every condition of life; men and women, old and young, rich and poor; but all free in will and action, subjected to no direct control, and living according to their own fancy.

But in the midst of that population there is another composed of men having the same habitation, clothing, food, age, occupations, and, it may be added, the same ideas, this being the moral result of a physical condition common to them all: we allude to the soldiery, who are subjected to habits of diet and discipline not found out of barracks. The Commission thought proper to inquire what had been the influence of cholera upon them.

The troops in garrison in the Department of the Seine as well as in the capital at the time of the invasion of the cholera numbered 28,700 men of all arms. The Secretary of War took immediate measures to preserve them from the pestilence. Warmer clothing was distributed among them ; to their ordinary rations rice and wine were added ; the time of drilling was reduced, and the severity of punishment modified ; a strict cleanliness was maintained in the rooms, where fires were kept up during the night ; lastly, to avoid the danger that might result from crowding the military hospitals already existing, three new ones were established at Courbevoie, at Saint-Denis, and at Vincennes ; a fourth was even prepared at Picpus and the Rue-des-Postes.

The Prefects of Police and of the Department adopted the same measures at the barracks of the Municipal Guards and of the Sapeurs-Pompiers (firemen).

From the 26th of March to the 1st of October the loss of the different corps was as follows :

	Number of men.	Deaths.	Proportion in 1000.
Garrison, . . . . .	28790	743	25.08
Veterans, . . . . .	825	30	36.3
Municipal Guard, . . . . .	1479	19	13.7
Firemen, . . . . .	604	18	30.0
Total, . . . . .	30698	810	25.03*

Thus considered in a mass, without distinction of arms, or reference to the nature of the service they were called upon to perform, the military suffered from the pestilence as well in Paris as in the Department of the Seine, in the proportion of 28.08 to 1000; a proportion greater than that of the civil population, the loss of which was only 21.08 in 1000.

This difference of mortality, without being very great, would nevertheless have attracted the attention of the Commission even if the opposite elements which establish it, and the information derived from the various regiments had not required investigation.

Some of the military stations seem to have been,

\* The total loss of the military population is divided as follows, in Paris, between the various grades :

Generals,	2
Superior officers,	21
Officers in active service,	66
Soldiers,	676
	<hr/> 765

as it were, overlooked by the epidemic, while others suffered severely.

In several corps, such as those of the garrison and of the municipal guard, the rate of mortality was scarcely greater than that of the city ; in others, such as the firemen and veterans, it was more than half (1,45).

The difference observed not only between corps subjected to the same mode of living and same diet; but between companies of the same regiment, required the attentive examination of such reports as had been received.

Out of 49 firemen struck by the disease 31 or two-thirds were attacked in a single barrack, that of Vieux-Colombier-street. The two others, situated in the Rue de la Paix and Rue Culture-Sainte-Catherine, had together but 18 patients. The Commission noticed before (see page 121) the causes of this great difference ; it would be useless to repeat them here.

The five companies of Veterans, each 140 strong, were distributed in 5 barracks, situated in the Rue Rousselet and d'Enfer, at the square of l'Estrepade, at the Garden of Plants, and in the old college of Montagu : the number of sick was,

In the barrack of Montagu, . . . .	18
of l'Estrapade, . . . .	9
of Rousselet-street, . . . .	8
of the Garden of Plants, . . . .	6
of Luxembourg, or Rue d'Enfer, . . . .	1
	<hr/>
	18

The quarters of the Municipal Guard were also five in number ; they had

In the barraek of Mouffetard-street, . . . .	38 sick
of the Minimes, . . . .	24
of Saint-Martin, . . . .	23
of Tournon, . . . .	21
of the barrière d'Enfer, . . . .	0
	<hr/>
Total, . . . .	106

Lastly, the troops of the line, lodging in 25 barracks, suffered most severely in those of the *Ave-Maria* and of *Mouffetard-street*, and in the *Rues de Babylone, du Foin, and de l'Ursine*.

It is true that the stations where the cholera raged with the greatest intensity, were the most unwholesome of Paris, either because too many soldiers were crowded in small rooms, or because the rooms themselves were damp, low, and often without sufficient ventilation. We have already seen in a preceding chapter\* what was the mourn-

\* See Chapter VII, page 121.

ful consequence of a bad disposition of the localities of the firemen-barracks of the Vieux-Colombier-street. We will add but one more instance of the same kind.

The first company of Veterans, quartered in the barracks of the Rue d'Enfer, out of 145 men had but 1 sick. In those barracks the rooms have high ceilings, and the air enters on both sides through a double range of windows, which open on the left upon a spacious yard, and on the right on the vast garden of the Luxembourg. The building, already old, is not in a very good state of repair, but it is light, airy, and free from dampness.

In the barracks of Montagu, the rooms on the contrary are low and shadowed by the walls of the Panthéon, which shut out the sun and light. A single row of narrow windows affords the only means of ventilation. The dampness is such that it spoils in a short time any object hung against the walls, and destroys the hair of the haversacks of the soldiers. A moist smell is perceived on first entering those rooms where there is no free ventilation of air, which are badly heated, and in which 30 men sleep each night. Out of 135 soldiers, 18 became sick; in the barrack of the Luxembourg but one.

The severity of military discipline is well

known, and the high degree of cleanliness which it requires from the soldiers in quarters; this discipline was strictly enforced, nor did any cause other than the unwholesomeness of the locality exist for the violent development of the disease.

By writers on the subject of the cholera-morbus in other countries, we are told that the right observation of all the means calculated to preserve the health of men gathered in great numbers in one place, has not a little contributed to diminish the violence of the disease among troops. In Russia, at Dorpat, there was not in the garrison a single case, and at Berlin only 30 cases, out of 12,000 men; at Breslau, on the other hand, there were 58 out of 2819 or  $2\frac{1}{2}$  to 100. It was the general average of mortality at Paris.

One observation of some importance the Commission have been enabled to make is, that men of all constitutions were indiscriminately subject to the epidemic. However, it was plain that those men whose physical strength had been impaired by other diseases, or whose moral energy was affected, were more particularly liable to the complaint.

It was also observed that the cavalry regiments suffered less than the infantry.

## CHAPTER X.

OF THE CHOLERA IN PRISONS AND HOSPITALS OF  
PARIS.

THERE are 7 prisons within the city of Paris; these are :

- 1st. *Le Dépôt*, near the Prefecture of Police, where persons arrested are first detained.
- 2d. *La Maison d'Arrêt*, or *La Force*, for men charged with crimes or misdemeanors.
- 3d. *La Maison de Justice*, known under the name of *La Conciergerie*, where persons of both sexes, indicted for offences, are detained.
- 4th. *La Maison de Saint-Lazare*, for women charged with crime, or already sentenced.
- 5th. *La Maison de Saint-Pélagie*, specially allotted to debtors or those condemned for political offences.\*
- 6th. *La Maison des Jeunes détenus dite des Magdelonnettes*, where the male juvenile delinquents are sent previous to and after conviction.

\* The debtors are now in a new and special Prison, Rue de Clichy.



7th. *La Maison de Basancourt*, for boys detained by paternal authority.\*

From the invasion of the cholera-morbus till the first of October, the average population of the prisons was 2,725, and the total number of deaths by cholera 61. This is one death in 44.67 or 22 in 1000; a much smaller proportion than that of the mortality among the inhabitants of the city of Paris (46).

Certainly, when the cholera appeared it was expected that the prisons would suffer greatly; it was thought that confinement and low diet would increase the number of victims.

The Administration had, it is true, taken in advance all the measures necessary to diminish the danger: several prisoners obtained leave to be transferred to the *Maisons de Santé* of the capital. Those that were sick, and who at any other time would have been treated in the infirmaries of the prisons, were sent to the hospitals. Lastly, many individuals arrested as vagrants, or detained in the

\* Young girls detained by request of parents are sent to a religious house of retreat, such as the Dames Saint-Michel, or to the Protestant house of the Rue des Billettes.

The military prison, *de l'Abbaye*, is not included in this chapter, as not being under the civil authority.—*Note of the Translator.*

house of correction of Saint-Denis, were sent back to their respective departments.

The following table presents the details relative to the prisons of Paris :

PRISONS.	Average population, established by the presence-days of prisoners.	Deaths by cholera			Reports of the deaths with the average population.	
		in the		Totals.	One out of	Out of 1000.
		Prisons themselves.	Hospitals and Maisons de Santé.			
Dépôt near the Prefecture of Police, . . . . }	287	..	8	8	35.87	59
Maison d'Arret, . . . .	759	6	6	12	63.25	16
Maison de Justice, . . .	100	3	2	5	17.60	57
Maison de Saint Lazarre,	834	10	10	20	41.70	24
SaintePélagie, { correction,	298	..	11	11	27.09	37
{ debtors,	160	..	4	4	40.	25
Juvenile Delinquents, . .	278	1	.	1	278.	4
Maison of Basancourt, . .	21	..	..	..	.. .	..
Totals, . . . . .	2725	20	41	61	44.67	22

It will be a cause of astonishment, on glancing over the last column but one of this table, to see the cholera destroying at the *Magdelonnettes* (Juvenile Delinquents) but one prisoner out of 278. But in treating a subject of this nature, we must consider the age of prisoners, and their habits of life. The proportion of 1 to 278, was obtained exclusively among young men, who seem to have had the privilege of escaping the epidemic.

Has the moral disposition of the prisoners detained in the *Maison de Justice* to await their trials

by the Courts of Assizes, (Oyer and Terminer,) really occasioned a mortality of 1 out of 17 or 18? It is possible. However, it must not be forgotten that in many populous streets, the loss has been much greater than in the *Maison de Justice*; and even in the prisons some wards have experienced a much greater mortality than others.

It will be observed also that there have occurred in the prisons, in proportion, fewer deaths by cholera than in the hospices of Paris *intra*\* and *extra*† *muros*. In these last establishments, the epidemic carried off, during the six months that it lasted, 747 poor out of 12,572, that is 1 out of 16.83, or 59.42 out of 1000.

That mortality which is naturally explained by the advanced age of the people who inhabit these hospices, offers the same results as the deaths of others, inhabitants of Paris, of the age of 60 years and upwards. However, there are hospices in which the proportion of deaths to the population gives greater differences than the above average: thus the *Hospice des Orphelins* had but 1 death and the *House of retreat of Sainte Perrine* but 11 out of

\* Old women, at the *Salpetriere*:—Incurable, men and women.—*Hospice des Menages*.—*Maison de retraite de Sainte Perrine*.

† Old men, at Bicetre.—Hospice La Rochefoucault.

1000, while the *Hospice des Ménages* lost 113 persons out of 759, or 135 out of 1000. But if it be admitted that the favorable result observed as regards the two first, is owing to the age of the orphans, and to the relative degree of comfort of the inhabitants of the *Maison de retraite de Sainte Perrine*, it will be proper to conclude that the contrary effect observed at the *Hospice des Ménages* was caused by the advanced age of the persons there admitted, together with that indigence to which the admission gave but little relief; for one must not lose sight of the fact that that establishment has but the name of an hospice; that a menage of which one of the parties must be 60 years, and the other at least 70, in order to be admitted, receive nothing but the room they occupy and some little assistance besides,\* while in other hospices the poor have each day a sufficient ration of food, a bed, linen, clothing, and all the care that their age and health may require; for this reason it is, that viewed together, and putting aside the *Hospice des Ménages*, they exhibit only a loss of 54.51 out of 1000, that is to say a loss not half as great as that which befell the *Hospice des Ménages*.

\* They are: three francs in silver every ten days; one and a quarter pounds of bread daily; one pound of raw meat every ten days; one double stere of wood yearly, and two voies of coal (little more than one ton).

## CHAPTER XI.

## RURAL COMMUNES.

THE Commission was not only intrusted with the care of ascertaining facts relative to the cholera in Paris; they were also to extend their researches to the whole Department of the Seine. To fulfil this duty, several of the members visited the rural communes to the number of 80. The following is the result of their observations.

Out of 80 rural communes of the department, the epidemic appeared in 9 before the 1st of April; in 33 before the 6th; in 51 before the 11th; in 67 before the 1st of May; and on the 1st of October in 77.

As in Paris, its progress presented in most of the communes two distinct phases: the first, during which it raged with most violence; and the second, called the recrudescence, which proved less fatal in

its attacks. The localities spared at the time of the first appearance of cholera, were not equally fortunate at the second. Among the latest sufferers l'Hay and Chevilly alone were attacked with great severity. It was also remarked, in the communes where the disease made the most progress, that the period when mortality was greatest, was either advanced or delayed, as in the districts of Paris, in proportion to the early or late appearance of the disease.

Number and position of the Communes.	Number of the Communes		Average number of deaths by cholera out of 1000 inhab.	Remarks.
	attacked before 6th April.	Spared until 1st May.		
6 situated at the west,	4	..	30	{ If abstraction is made of the dépôt of mendicity at St. Denis; or 28 if it is included.
6 " northeast,	3	..	20	
10 " north,	8	..	26	
11 " northeast,	6	1	19	
13 " east,	4	3	1	
11 " southeast,	2	..	13	{ Without Bicetre; or 22 if included.
14 " south,	3	7	14	
9 " southwest,	3	2	21	

It will be seen that it is in the communes lying to the west and north of the capital that the cholera made its first and greatest ravage, and that the communes situated east and south suffered less severely.

The investigation of the influence of other local conditions has given the following table of results, in which the Commission have taken care to place

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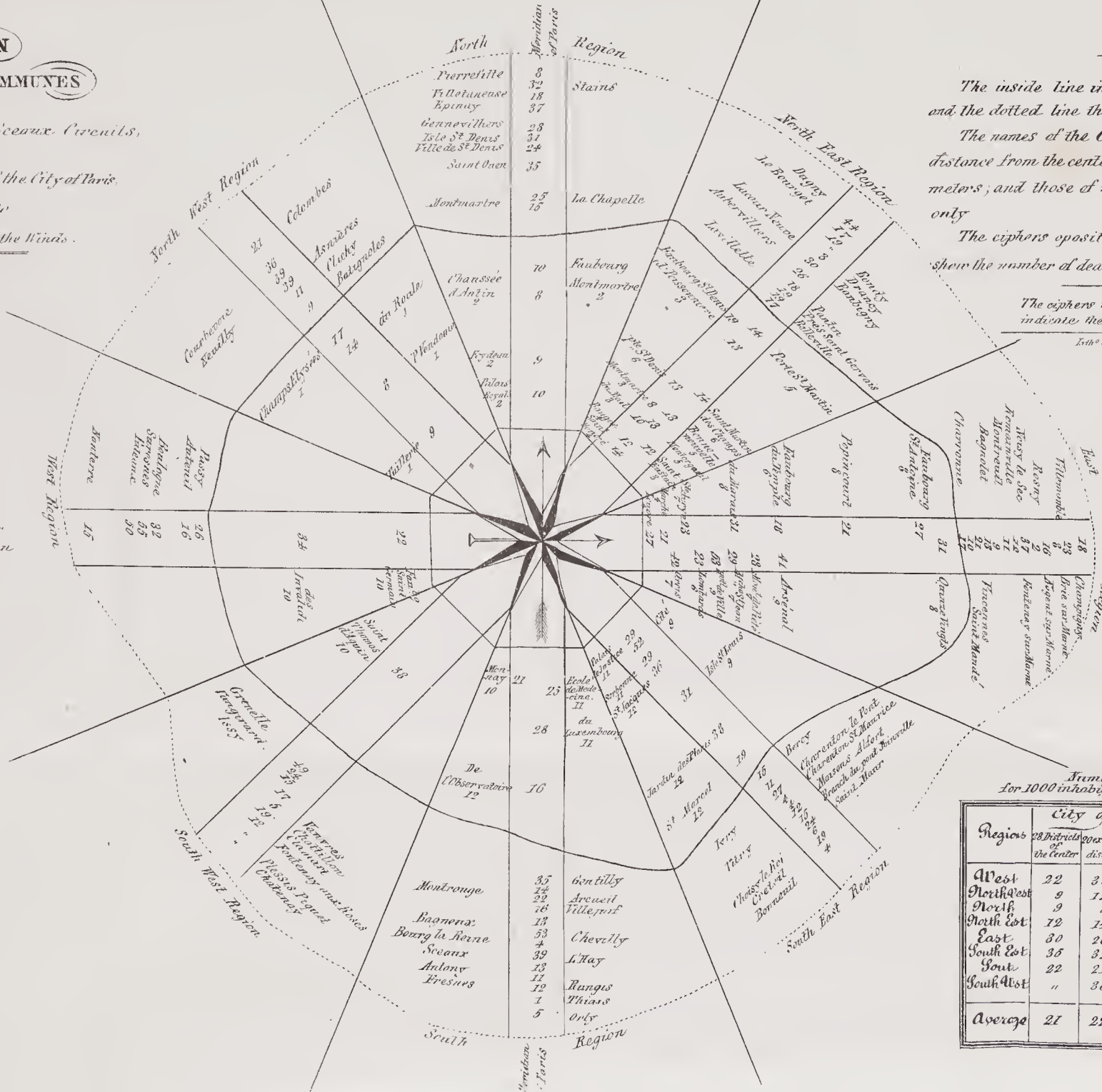


# DEPARTEMENT OF THE SEINE

## PLAN of the 80 RURAL COMMUNES of

the Saint Denis and Sceaux Circuits,  
and of  
the 48 districts of the City of Paris,  
according to  
the direction of the Winds.

Perpendicular  
to the Meridian



## Remarks.

The inside line indicates the limits of the City of Paris,  
and the dotted line those of the Department.

The names of the Communes are written at a respective  
distance from the center upon a scale of from 1000 to 1000  
meters; and those of the districts upon a scale of 100 meters  
only

The ciphers opposite each name of the Communes & District,  
show the number of deaths by cholera for each 1000 inhabitants.

The ciphers under the name of the Districts  
indicate the Ward to which they belong.

Edith of B.F. Butler 90 Fulton St. N.Y.

Perpendicular  
to the Meridian

Number of deaths by Cholera  
for 1000 inhabitants in each of these Regions.

Regions	City of Paris. 28 Districts of the Center	Percent of districts	Total of districts	Rural districts of the 80 communes	Total of districts of the 80 communes	Great Divisions North, South, East & West	Paris.
West	22	33	29	30	29	29	29
North West	9	12	12	20	14	13	12
North East	9	9	9	20	13	13	12
East	12	14	13	19	14	14	12
South East	30	26	28	15	27	27	28
South	35	32	32	13	28	28	28
South West	22	21	23	22	22	16	28
Average	21	22	21.5	20	21	21	21.5



all the communes which, by their position, or the direction of their streets, are particularly sheltered against one or more winds, or are equally open to all ; those that are in contact with large surfaces of evaporable waters, or which are distant from such ; lastly, those whose soil is low or high, dry or humid.

In 37 communes well opened to the air cholera carried off 1,522 individuals out of 64,457, or 24 in 1000 ; and 1,311 out of 86,897, or 15 in 1000, in communes more or less sheltered.

Number and situation of the Communes.				Population.	Deaths by cholera.	Proportion in 1000.
9	Communes sheltered on the west,			13621	291	21
2	"	"	" northwest,	4539	54	12
8	"	"	" north,	16146	231	14
5	"	"	" northeast,	17971	226	12.5
4	"	"	" east,	4126	61	15
6	"	"	" southeast,	6947	111	16
8	"	"	" south,	12432	150	21
3	"	"	" southwest,	4321	90	12
2	"	almost wholly sheltered,		6794	17	14
Totals,				86897	1311	15

The communes open on all sides to the winds seem to have experienced a great loss ; and on the other hand, those that were more or less sheltered suffered but little, excepting however such as were exposed to the east, and above all to the northeast winds ; but a fact that would seem to indicate that

shelter, expositions, or particular winds, had not after all a great influence on cholera, is, that between the communes differences and inequalities of the highest character exist, even when by the reports which have just been investigated, these communes belong to the same category.

The communes low or high, far from or near to water, occupying a dry or humid soil, are the following :

Number and position of the Communes.	Popula- tion.	Totals of deaths by cholera.	Report on 1000 inhabit- ants.	Defalcation made of Bicetre, and the dépôt of mendicity of St. Denis.		
				Popula- tion.	Deaths by cholera.	In 1000.
29 in contact with great surface of water, }	69892	1775	25	65892	1468	22
18 humid ground, . . }	47488	1366	29	43488	1059	..
29 low ground, . . . }	64735	1635	35	60685	1328	24
34 far from water, . . }	57950	847	15	. .	. .	22
43 dry ground, . . . }	75735	1139	15	. .	. .	..
38 elevated ground, . . }	67478	1055	16	. .	. .	..

It seems to result from the above calculations that the neighborhood of water, humidity and a low situation, increased the activity of the epidemic, while contrary circumstances appear to have checked it.

In comparing the effect of cholera upon various professions in the communes with details of the same character obtained in Paris, it will be seen that in the country, as well as in the city, the

scourge had most influence on those professions that are less comfortable in their nature, and chiefly upon those that are exercised in open air.

Two professions were entirely exempt from cases of cholera : hostlers and restaurateurs.

## CHAPTER XII.

## ON THE INFLUENCE OF INSALUBRIOUS ESTABLISHMENTS UPON CHOLERA.

IN a great number of rural communes are to be found certain processes of industry, certain professions or trades, which may be supposed to have exercised upon the epidemic an influence either favorable or otherwise.

These communes presenting several kinds of population, more distinct and separate from each other than those existing in the various districts, it became easier to verify the existence of an influence to which so much importance had been attached before the invasion of cholera. This new subject required on the part of the Commission an exact and scrupulous investigation.

That investigation has confirmed the fact that every where the cholera sported with human pro-

visions ; gave the lie to opinions the most generally received, and rendered questionable what seemed to be most firmly accredited. It was often in the most salubrious and least exposed villages that its ravage was most severe, while it left scarcely a trace of its passage in localities which were always considered as sources of infection and disease. The Commission will content itself with the mention of a few facts in support of this assertion : to report all would be both long and tedious.

It is difficult to have an exact idea of the filthiness of Gentilly, chiefly of that portion of the village which lies nearest to Paris and is called Petit-Gentilly. Shut up in a narrow defile, it is traversed by the Bievre, whose waters move sluggishly, mixed with the impurities of a multitude of wash-houses, of wool-cleaning establishments, dye-houses, and other factories, situated as well at Gentilly as at Arcueil, and others points in the upper banks of the stream ; Gentilly contains besides, factories of animal black, smelting houses of grease taken from bones, chemical laboratories ; but above all, cloth-dressing establishments, so many in number, that the spectator might be led to believe at first sight, that all the followers of that branch of the business had fixed their habitations in the same village. Lastly, to complete the sketch we must add that a great

many of the wells of Grand-Gentilly are so saturated by infiltrations from the sewer of Bicetre, that the water cannot be used even for the commonest household purposes.

As to the commune of Clichy, the Commission will but quote what one of the members of the Council of Salubrity said with regard to it in his report of the 6th of May, 1831 : "In insalubrity that village is constantly increasing ; all the evils complained of by the Mayor exist in the highest degree ; but one great cause of mischief, which he does not mention, is the general want of care and cleanliness. To say nothing of the ponds dug in the neighboring fields, or of the ditches alluded to by the Mayor in his report (each house was surrounded by one of these ditches full of soap and lie), the streets themselves are common sewers, and each step one takes is amid stagnant waters, &c."

Nevertheless, the mortality in these two villages, which it was expected would be fearfully great in case of the visitation of the most terrible of all epidemics, was for Gentilly but 12, and for Clichy only 11 in 1000 inhabitants, while many communes in which the Sanatory Committee found nothing to blame, lost 35, 37, 40, 50, and 55 out of 1000. Can the small mortality presented by Clichy be attributed to its being sheltered against the northeast wind, and

above all to the ammoniacal state of the atmosphere ?

At Saint-Denis the Sanatory Committee reported as an unhealthy establishment, a house situated in the Place-aux-Gueldres, where twenty cows were kept, and a skin-dresser resided and prosecuted his business. The urine and the water having no outlet ran into a cesspool, became corrupted there, and in that state were thrown in the highway by means of a pump, occasioning far and near an infectious odor. That house had but one cholera patient, and nobody was affected in the adjacent houses, though one of these (a school) had 80 boarders and 40 day pupils. It was neither among the butchers nor the graziers of that city that the disease made the most progress, though in their premises slaughter-houses, cow-houses, and sheep-folds existed, many probable causes of infection.

Bercy, through which runs a muddy sewer which comes from the Great-Pint, and which, dug in open ground, exhales a noxious and repulsive effluvia, beheld but one case of cholera within its limits; and the epidemic spared the village known as the Brèche-aux-Loups, and the Rue de la Lancette, inhabited by washerwomen, and constantly overflowed with soap-suds to such a degree that the houses are surrounded by it, and the highway rendered imprac-

ticable ; nothing could surpass the stench of that sink when first visited.

Lastly, in the village of Colombe was a large glue factory, and in a dreg-house basins full of lie presented a large surface from which fetid emanations exhaled ; yet the cholera spared those factories, and its immediate vicinity proved less unhealthy than the rest of the village.

The same remarks, as regards the effect of ammoniacal air, apply to the communes of La Villette, Colombe, and Grenelle.

The inspection of the Voirie of Montfaucon, that curious locality so worthy of fixing the attention of medical men and public administrators, will complete the picture of the influence which infectious emanations seem to have had on cholera.

The villages of Pantin, of La Villette, of Saint-Germain-des-Près, and of Belleville, which surround Montfaucon and receive its emanations, are placed in the category of those that have suffered least (17, 18, 19 in 1000).

Let us examine Montfaucon. It is known that this commune, in the interior of which live most of the workmen of the Voirie, is divided in two parts, separated one from the other by the basin of Ourq ; that which contains the Voirie itself is called the Petite-Villette ; the other, at seven or eight hundred metres distance, the Great-Villette.



By a report forwarded to the Commission (report which was rendered more complete by adding from the books of the Hospital Saint-Louis, where were removed the sick workmen of La Villette and all that died of cholera), it has been ascertained that during its duration the mortality was, for the Petite-Villette, sheltered at the north and at the east, 1 out of 69 inhabitants (14 in 1000), and for the Great-Villette, 1 out of 60 (17 in 1000).

Whence this difference? It was too constant to be but the result of chance, it must be sought in the daily resources that the workman of Montfaucon finds in his labor, which, never suspended, never expose him to privations, so much the more severe as they succeed almost always to a sort of abundance, the frequent cause with other mechanics of intemperance and its consequences.

To these considerations, taken in mass, we will add a few observations of details which present no less interest.

During all the time of the epidemic no horse-killer was taken sick.

At this period, out of 154 hands, male and female, employed in the desiccation of human excrements, only one died of cholera. Ten persons, men and women, were obliged to suspend their labors for several days on account of slight indisposition, but they soon returned to their work.

Out of 30 gut-workers employed in the middle of the equarrissage yard,\* and working in close shops where air is not easily renewed—where reigns habitually an effluvia offensive beyond description or imagination—one alone died of cholera. One woman, overwhelmed by fear at the sight of the many funerals she met in Paris, became sick, but recovered in a few days.

Thirty gut-workers, working at a short distance, at Mrs. Taxada's, experienced no alteration in their health during the whole period of cholera.

The labor of these people, performed in the midst of putrid matter, might warrant the belief that habit has nullified in them the influence attributed to the deleterious emanations supposed to be productive of cholera accidents. Here the following facts, however, tend to prove that they are not indebted to that habit for their safety.

Round the Voirie, and chiefly in the equarrissage yard, are placed numerous plaster-kilns, which gave employment at the time of the appearance of cholera to 87 men; several were taken sick during the epidemic; three had the cholera pretty severely, but one alone died.

\* *Equarrisseurs* are men employed to take apart the carcasses of horses in order to obtain from them various animal products, such as animal black, ammonia, glue, skin, hair, hoof, prussian blue, gut-cords, fish-baits, &c., &c.—*Note of the Translator.*

Again, the repairs of one of those kilns having required during two months the labor of 17 masons, close to the worst kept yard and in the most infectious part of Montfaucon, the cholera attacked one of them, who resumed his work after six days' treatment at the hospital Saint-Louis; the foreman, who never left Montfaucon, always enjoyed good health, but his wife, who lived in the central part of Paris, died of cholera.

During the epidemic, the inhabitants residing nearest the places where animal manure was deposited were not even attacked. The tenants of houses nearest to the depot of these matters, who are liable to fevers, experienced no indisposition.

An old man, who made it his business to sell to farmers animal manure, was continually among large heaps in fermentation, yet suffered not the least derangement.

The tenants of some houses in the yards of which much of this manure had been clandestinely deposited, were not incommoded by it.

Far from believing that this manure was insalubrious, the country people have been persuaded, for *several years past*, that the matters kept in fermentation purified the air.

The village of Noisy-le-Sec lost but 12 out of 1000 inhabitants: a very small proportion.

## SUMMARY.

THE Commission having terminated their investigation, deem it proper to sum up its results.

1. The cholera appeared at one and the same time in Paris and in the rural communes of the Department; or, to be more positive, within an interval of 48 hours, from the 26th to the 28th of March.

2. In the country, as in the city, its development, its progress, its periods of abatement or increase (recrudescence), as well as its duration, have been similar.

3. In the country, as in the city, more women than men died, but in the country the mortality of the females was one fifth greater than that of males, and comparatively larger than in Paris.

4. In the rural communes, as in the city, the ages that seemed most liable to disease and death, were first infancy, mature age, and senility; the period of human life that suffered least is that be-

tween 6 and 20; but in the rural communes, first infancy experienced relatively to other ages a greater loss than in Paris, and adolescence a lesser loss as well as persons advanced in life. Compared to the chances of ordinary mortality, the age between 30 and 40 is that which has presented every where the most unfavorable results.

5. The resistance of nature to the attacks of the disease, has been in a direct ratio to the strength that age offered, excepting however the period from 5 to 10 years.

6. It does not appear that the variations of the atmosphere exercised more influence on the activity or relaxation of the evil, in country than in town.

7. The total population of Paris lost

	18,402 persons, or 23.42 out of 1000.			
Of the wards of Saint-Denis	2,001	do.	21.03	do.
Of the wards of Sceaux,	1,385	do.	17.62	do.
Total in the whole Depart.,	21,514*	do.	22.75	do.

And if the rural communes suffered less than the capital, the recrudescence in July proved more fatal in them in proportion to the total loss.

\* From the 1st of October, 1832, to the 1st of April, 1833, the number of persons, whose death has been attributed to cholera, was, for Paris 714, and for the country 80; giving 22,308 victims, or 23.57 out of 1000, as the deaths by cholera from the time of its invasion in March, 1832.

8. The rural communes most exposed to the winds were most assailed, but in Paris the central districts and narrowest and best sheltered streets, suffered most severely. Generally in the localities last mentioned, wherever a poor wretched population was crowded in filthy, contracted lodgings, the epidemic multiplied its victims.

9. In the rural wards, as well as in the capital, the cholera seems to have more specially struck at the professions that indicate least comfort, and above all at those which are exercised in the open air.

10. The excesses in which, too often, the working classes of Paris indulge on Sundays, seem to have produced one-eighth of augmentation in the number of admissions to the hospitals on the Mondays following.

11. The mortality was less among prisoners than among other classes of the Parisian population.

12. The loss experienced in the hospices, taken as a whole, presents the same proportion, 64 out of 1000, that is presented by the deaths of the inhabitants of Paris of 60 years and upwards.

13. The military fell before the pestilence, both in Paris as in the rest of the Department, in the proportion of 25.66 out of 1000; a proportion

which surpasses that of the civic population (21.83).

14. Lastly, in places infected by putrid emanations, the cholera was neither more extended nor more fatal than in other localities.

The Commission here end their report. To the result offered by them they have nothing to add. They believe these to be the direct and natural expression of facts, and believe, too, that their own duty has been accomplished. Will the public recognize the justice of this belief? The Commission hope so, and trust that it will not be made a ground of accusation against them, that they have said nothing of the first cause of the cholera, nor endeavored to explain what must long remain hidden from human knowledge, nor even touched on the much controverted question of contagiousness.

Appointed merely to gather documents relative to the invasion and progress of the pestilence in Paris and the Department of the Seine, the Commission did not deem it proper to extend the object of the mission intrusted to them. They were of opinion (and several medical men among their members held the same opinion) that it would be proper, in their report, to hold themselves aloof from medical controversy.



To gather facts, to give their history, to deduce results, such was their duty; they thought they would have travelled beyond its line by penetrating the dominion of art. It is also in consequence of this principle that they have carefully avoided, in their report, all scientific language. Writing for their fellow-citizens, they have endeavored to be intelligible to all.

The Commission have terminated their Report; they offer it to their fellow-citizens, and to the Magistrates of the city of Paris, as a testimony of their efforts to justify the confidence reposed in them, and answer the public expectation; many might have made an abler report, none could have evinced more zeal and good faith.

THE MEMBERS OF THE COMMISSION.

*Paris, May 28, 1834.*



TABLE,  
SHOWING THE  
NUMBER OF DEATHS BY CHOLERA FOR EACH PROFESSION,  
IN THE  
CITY OF PARIS,  
FROM  
The Invasion of the Cholera in March to the 30th of  
September, 1832, inclusive.



PROFESSIONS.		NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.						
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					
			WELL SHELTERED.				In damp places; on the river; or making daily use of water.	Professions that vitiate the air breathed by the operator.
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lombs	In open air.		
1st Class.—Liberal Professions.		Administrators { men			1			
		children			1			2
		Ambassador { wife of			1			1
		Architects { men			9			
		women			2			12
		children			1			
		Artists { men			16			
		women			1			12
		children			1			
		Couns'llors at law { men			13			
		women			2			19
		children			2			
		clerks			1			
		Attorneys { men			7			
		women			2			15
		children			2			
		clerks			4			
		Agents { men			17			
		women			4			22
		children			1			
		Actors { men			4			8
		women			4			
		Clerks { men	349					
		women			82			462
		children			30			
		Aldermen { men			2			3
		wives of			1			
		Verificators { men			1			1
		men			2			
		Dentists { men			2			5
		women			2			
		children			1			
		Mem'b's of house of deputies { men			9			9
		Drawers { men			5			
		women			1			7
		children			1			
		Doctors, L.D. { men			1			1

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.						
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					TOTAL.	
			WELL SHELTERED.			In open air.	In damp places; on the river; or making daily use of water.		Professions that vitiate the air breathed by the operator.
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lumns.				
1st Class.—Liberal Professions.—Continued.		Ecclesiastics	men			9			9
	Students, school-	boys			22			}	28
	boys	girls			6				
	Genealogists	men			1			1	
	Geometricians	men			2			2	
	Men of letters or	men			9			}	10
	editors	women			1				
	Constables and deputy-sheriffs	men			7			}	10
		clerks			2				
		practi- tioners			1			}	
	Engineers	men			4				
	Interpreters	men			1			1	
	Magistrates	men			6			}	8
		wives & children			1				
	Master of cere- monies	wife of			1			}	1
	Fencing-masters	men			1				
	Auditors	men			2			2	
	Mathematicians	men			2			}	3
		women			1				
	Physicians	men		30		2		}	48
		women			4				
		children						}	
	students		12						
Moulders,	children				1			1	
Musicians	men				24		}	32	
	women				7				
	children				1		}		
Notaries	men				8				
	wives of				3		}	16	
	clerks				5				
Peers of France	men				5			5	
Pedicures	men				2		}	3	
	women				1				

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.					
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					TOTAL.
			WELL SHELTERED.			In open air.	In damp places; on the river; or making daily use of water	Professions that vitiate the air breathed by the operator.
			Very sedentary.	Near the sick.	Other than those of the two preceding col- umns.			
1st CLASS.—Liberal Professions.—Continued.		Painters, col'rists { men women children			93 27 18			138
		do on china { men women			4 1			5
		Schoolmasters, { men teachers { women children			50 31 2			83
		Music teachers, { men women children			5 1 2			8
		Living on income { men or annuities { women children			356 617 4			977
		Referendaries at { men Court of account			2			2
		Of religious or- { men ders { women	1 48					49
		Sextons { men do of Hebrews { women			2 1			2 1
		Midwives { women children students	9 1		1			11
		Sculptors { men women children			26 2 1			29
		Surveyors { men			4			4
2d CLASS.—Com- mercial Professions.		Bankers { men women children			1 3 1			5
		Traders, Merch- { men ants { women children			38 11 6			55
		Travelling clerks { men women children			1 1	5		7

PROFESSIONS.				NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.								
CLASSES.	DIVISIONS.	Systematic classification of the Profession.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED						TOTAL.		
				WELL SHELTERED.			In open air.	In damp places; on the river; or making daily use of water.	Professions that vitiate the air breathed by the operator.			
				Very sedentary.	Near the sick.	Other than those of the two preceding co- lums.						
2d CLASS —Commercial Professions. —Continued.	Doing business in Metals.		Dealers in brass { men children			1 1			}	2		
			In iron & metals { men children			2 1				5		
			In gold { porters men			2 1				1		
	Doing business in Minerals.		In coals { men women			2 1			}	3		
			In plasters { men women porters			1 1 1				}	3	
		Dealing in products or substances extracted from vegetables.		In bouquets { women men				3			}	3
			In seeds { women children			1 2			}	6		
			In herbs { men women children			2 4 1				}		7
			Venders in lum- ber yards { men women children porters			7 2	10		}			35
			Merch'ts of cotton { men of vegeta- bles, fruits, &c. women children			1 3	29 134					}
			in pea-nuts, nuts, &c. { men women				1 1			}		
			in mats, { women men				1 1		2			
			Merchants of bas- kets { women men						}	4 6 1		
			do of tobacco, segars { men women children							11		

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.						
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					TOTAL.	
			WELL SHELTERED.			In open air.	In damp places; on the river; or making daily use of water.		Professions that vitiate the air breathed by the operator.
			Very sedentary.	Near the sick.	Other than those of the two preceding columns.				
2d CLASS.—Commercial Professions.—Continued.	Dealing in animals.	Merch'ts of wines { men women children porters			68 40 10 29				140
		do of oils { men					1	1	
		do of fruits { men women children					29 50 3	82	
		Butchers { men women children boys					17 9 2 7	35	
		Cattle dealers { men					1	1	
		Horse dealers { men women children ostlers					7 4 1 9	45	
		Fish-women { boys					24		
		Poultry dealers { women children			1	8 10	31	31 19	
		Graziers { men women children			2		6 2	10	
	Bird dealers { women					3	3		
	Dealing in animal products.	Fur dealers { men women			1 1			2	
		Milk venders { women men			1	8		9	
		Butter venders { men women children					1 3 2	6	
		Glue dealers { men					1	1	
		Sponge pedlers { women				2		2	

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.								
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					Professions that vitiate the air breathed by the operator.	TOTAL.		
			WELL SHELTERED.			In damp places; on the river; or making daily use of water.					
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lunns.		In open air.				
2d Class.—Commercial Professions.—Continued.	Dealing in animal products.—continued.	Cheese venders { men						5	}	7	
		Wool merchants { women						2		1	
		Peddlers { in rabbit { men			1		7			}	8
			{ skins { women				1				2
			{ in feathers { men				2				7
	Dealers in and dressers of skins	{ men						5	}		
		{ children						2			
	Dealing in products belonging to the chemical arts.	Bottle dealers { men			4					}	4
		{ men			5						
		Blacking makers and traders	{ women			3				}	15
			{ children			1					
			{ boot pol- ishers			6					
		Dealers in crys- tals	{ women			1					1
		do in brandies	{ men			2				}	6
		and liquors	{ women			4					
		do in earthen- ware	{ men				3			}	5
		do in broken glass	{ children			2					
			{ women				2				2
	In products belonging to the economical arts.	Inn-keepers, boarding-house. keepers, lodgers	{ men			45				}	123
			{ women			62					
			{ children			16					
Hosiers		{ men			56				}	77	
		{ children			16						
Old clothes deal- ers		{ men			5				}	74	
		{ women			36						
		{ children			35						
Sutlers		{ men			3		3		}	4	
		{ women					1				
Builders	{ men			7				}	8		
	{ children			1							



PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA. Classified according to the condition in which the deceased had been placed by the professions exercised by them.									
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					Professions that vitiate the air breathed by the operator.	TOTAL.			
			WELL SHELTERED.			In open air.	In damp places; on the river; or making daily use of water.					
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lums.							
2d Class.—Commercial Professions.—Continued.	In products belonging to the economical arts.—Continued.	Pork shop keep- ers							9 5 1	}	16	
		men										
		women										
		children										
		assistants										
		Illumination con- tractors				1						1
		men										
		Stage coach driv- ers				1						1
		children										
		Freight carriers				1						
		porters					10					11
		China-men					6					10
		children					2					
		Fruit retailers					2					2
		women										
		Coffee-house keepers					14					
		women					10					
		children					2					31
		waiters					5					
		Coal dealers					7					
		men										11
		women					4					
		in matches						2				2
		women						1				
		in brooms						4				5
men												
women												
in boxes						1				1		
women												
in tinder						1				1		
men												
in coffee						1				1		
women												
in canes and						3						
men										6		
umbrellas												
women					3							
in handboxes						2				2		
women						1				1		
in rosaries										1		
women												
in gewgaws					1					1		
children												
in old iron						9						
men										19		
women						8						
children					2							
in cakes						3						
men										25		
women						20						
children					2							
in wick						1				1		
men												

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.						
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					TOTAL.	
			WELL SHELTERED.			In open air.	In damp places; on the river; or making daily use of water.		
			Very salutary.	Near the sick.	Other than those of the two preceding co- lums.				
2d Class.—Commercial Professions.—Continued.	In products belonging to the economical arts.—Continued.	Peellers			1	7		15	
						7			
							3		
						1	1		
		in shoe laces, &c.			1	1		1	
		in soaps			1	1		1	
		in ladies' cast-off dresses			1	14		15	
		in drinks			2	4		11	
						5			
Merchants	in embroid- eries			1			1		
	in eatables			1			3		
	in cloth			3			5		
	in furniture			8			16		
	in dry goods			4			12		
	in ribbons			1			4		
	in wooden shoes			1			1		
	in linen			4			6		
	in tiles			1			2		

PROFESSIONS.				NUMBER OF DEATHS BY CHOLERA.							
				Classified according to the condition in which the deceased had been placed by the professions exercised by them.							
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	Systematic classification of the Professions.	PROFESSIONS EXERCISED						TOTAL.	
				WELL SHELTERED.			In open air.	In damp places; on the river; or making daily use of water.	Professions that vitiate the air breathed by the operator.		
				Very sedentary.	Near the sick.	Other than those of the two preceding columns.					
2d CLASS.—Commercial Professions.—Continued.	In products belonging to the economical arts.— <i>Continued.</i>	Merchants	{ in thread & needles	men		6				25	
				women		16					
				children		3					
		{ in looking-glasses	{	men		2				2	
				men		14					
				women		7					
		{ in paper	{	children		3				26	
				rulers		2					
				men		10					
		Eating-house keepers	{	women		3				19	
				children		1					
				m. wait'rs		4					
	Cooking shop keepers	{	f. do		1				3		
			women		2						
			children		1						
	Tripe dealers	{	men				5		8		
			women				3				
	Glaziers	{	men		13				17		
			women		2						
			children		2						
	In products from mixed matters.		Hawkers	{	men			21		29	
					women			6			
					children		2				
			Brokers, spirit inspectors	{	men		14			20	
women						5					
children						1					
Grocers			{	men		23			58		
				women		20					
				children		10					
Various merch'ts without special designation			{	assistants		5			233		
				men		56					
				women		174					
Hardware	{	children		3			5				
		men		2							

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.							
Systematic classification of the Professions		DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					Professions that vitiate the air breathed by the operator.	TOTAL.	
CLASSES.	DIVISIONS.		WELL SHELTERED.			In open air.	In damp places; on the river; or making daily use of water.			
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lumnas.					
2d Class.—Commercial Professions.—Continued.	In products from mixed mat- ters.—Continued.	Merch'ts, pedlers { men without any oth- { women er designation { children			2	4 13		}	19	
		Junk shop { women				1			1	
		Stall keepers { men { women				2 3			5	
		do in markets { men { women { children			1	1 19			21	
		Dealers in rags { men { women							2 3	5 2
		do in findings { women			2					
	In products of the fine arts.	Old book dealers { men { women				1 3		}	4 1	
		Music publishers { women			1					
		Booksellers { men { women { children clerks			9 4 1 1		15			
		Merchants of en- { men gravings { women			3 2		5			
		do of pictures { women			1		1			
		Reading-room { women			1		1			
		keepers {								
3d Class.—Mechanical Pro- fessions.	In the metals.	Needle makers { women			2		}	2		
		Silver platers { men { women { children			3 1 2			6		
		Gun makers { men { women { children			12 4 1			17		
		Scale makers { women			2			2		
		Gold beaters { men; { women { children			1 1 2			4		
		Spur makers { men			3			3		

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.						
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					TOTAL.	
			WELL SHELTERED.			In open air.	In damp places; on the river; or making daily use of water.		Professions that vitiate the air breathed by the operator.
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lums.				
3d CLASS.—Mechanical Professions.—Continued.	In the metals.	Jewellers, silver-smiths	men		83			141	
		women		18					
		children		11					
		polishers	men		3				
		women		12					
						14			19
		Burnishers	men		1				
		women		17					
			children		1			33	
		Coppersmiths	men		28				
		women		4					
			children		1			22	
		Nail makers	men		16				
		women		5					
			children		1			10	
		Cutlers	men		9				
		women		1					
			men		19			46	
		Gilders	women		20				
		children		7					
			men		4			5	
		Embossers	children		1				
			women					1	
		Watch-case makers			1				
			men					5	
		Brass workers	women		1				
			men		1			1	
File makers									
	men		3			4			
Plated manufacturers	women		1						
	men		1			2			
Spring makers									
	women		1			32			
	men		23						
Tinmen	women		5						
	children		4			48			
	men								
Brass founders	women		3						
	children		4			55			

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.						
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					TOTAL.	
			WELL SHELTERED.			In open air.	In damp places; on the river; or making daily use of water.		Professions that vitiate the air breathed by the operator.
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lumns.				
3d Class.—Mechanical Professions.—Continued.	In the metals.—Continued.	Type founders { men women children			3 4 1			9	
		Type rubbers { women men children			1 1 9				
		Sword cutlers { men children			1 24				
		Clock makers { men women children			5 4 1				
		Metal flatteners { men women			1 1				
		Brass finishers { men men			6 3				
		Clock finishers { men children			1 1				
		Brass planishers { men women			5 2				
		Plumbers { men women			10 2				
		Iron potters { men			1				
		Blacksmiths { men women children			157 26 19				
		Ironmongers { men women children forgemen			7 2 3 13				
		Sheet-iron workers { men women children			2 1 1				
		Metal turners { men women children			18 1 2				
		In mine- rals.	Quarrymen { men women				23		24
	Lapidaries { men				1 4				

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA. Classified according to the condition in which the deceased had been placed by the professions exercised by them.							
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					Professions that vitiate the air breathed by the operator.	TOTAL.	
			WELL SHELTERED.				In damp places; on the river; or making daily use of water.			
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lumns.	In open air.				
3d Class.—Mechanical Professions.—Continued.	In minerals.— <i>Continued.</i>	Stone sawers { men				19		22		
		{ women			2					
		{ children			1					
		Stone cutters { men				40			49	
	{ women			4						
	{ children			5						
	In vegetables.	Cultivators { men				16		23		
		{ women			6					
		{ children			1					
		Farmers { women				1		1		
		{ men				82				
		Gardeners { women				45				
		{ children				14		143		
		{ men				1				
		{ women				1				
		Nurserymen { men				1		1		
		{ women				9				
		Wine-growers { men				7				
		{ women						16		
		In products or substances extracted from vegetables.	Wooden ware { men			1				2
			{ women			1				
	Cork cutters { men				2			2		
	{ women					58				
	Carpenters { men					6		67		
	{ women					3				
	{ children						37	43		
	Wheelwrights { men					5				
	{ women					1				
	{ children					15		20		
	Box makers { men					4				
	{ women					1				
	{ children					7	13			
	Rope makers { men				3					
	{ women				3					
	Paper makers { men						2	3		
{ women				1						



PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.							
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					TOTAL.		
			WELL SHELTERED.			In open air.	In damp places; on the river; or making daily use of water.		Professions that vitiate the air breathed by the operator.	
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lumns.					
3d Class.—Mechanical Professions.—Continued.	In products or substances extracted from vegetables.—Continued.	Cotton workers	{ men		5			12 12	28	
		{ women		20						
		{ children		3						
		Cabinet makers	{ men		83					111
		{ women		21						
		{ children		7						
		Hoop makers	{ men		1					1
		Chair makers	{ men		3					6
		{ women		2						
		{ turners		1						
		Joiners	{ men		239					291
		{ women		29						
		{ children		20						
		{ boys		3						
		Straw hat work'rs	{ women		1					1
		Tobacco workers	{ men							27
		{ women								
			{ children		3					5
		Floor makers	{ men		4					
		{ women		1						
	Chair bottomers	{ men		2			21			
	{ women		17							
	{ children		2							
	Lumber sawyers	{ men			35		38			
	{ women		1							
	{ children		2							
	Wood turners	{ men		15			19			
{ women		1								
{ children		3								
Basket makers	{ men		17			17				
On ani- mals.	Horse shoers	{ men			16		21			
	{ women			2						
	{ children			3						
	Dog shearers	{ women			1			1		
	Skin dressers	{ men					2	2		



PROFESSIONS.		NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.						
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					
			WELL SHELTERED.			In damp places; on the river; or making daily use of water.	Professions that vitiate the air breathed by the operator.	TOTAL.
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lums			
3d CLASS.—Mechanical Professions.—Continued.	In products from animals.	Chamois dressers	men					2
		Shoemakers	men		314			459
			women		71			
			children		39			
			workmen		1			
		binders	women		32			27
			do		1			
			women		1			
		Curriers	men					43
			women		12			
			children		3			
			crimpers				1	
		Animal stuffers	women				1	1
		Whalebone work- ers	women		1			1
			men				1	1
		Music cord mak'rs	women		1			1
		Brush makers	men				2	3
		Leather dressers	women		1			6
			men		1	5		
		White leather dressers	women					2
		Horse-hair work- ers	men		2			2
			men		1			7
		Feather dressers	women		6			
			men		1		12	16
		Tanners	women		2			
			motteur		1		1	5
		Human hair workers	men		4			
			women					
		Cart makers	men			16		30
			women		10			
			children		2			
		Brewers	workmen			2		8
			boys		8			

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.									
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED						TOTAL.			
			WELL SHELTERED.				In damp places; on the river; or making daily use of water.	Professions that vitiate the air breathed by the operator.				
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lumns.	In open air.						
3d CLASS.—Mechanical Professions.—Continued.	In products belonging to the chemical arts.	Glass burners	men			3			}	4		
		women			1							
		Ash washers	men			1					}	3
		children			1							
			washers			1					}	14
		men			10							
		Distillers	women			1					}	10
		children			1							
			boys			2					}	6
		Enamellers	men			1						
		women			9			3			}	97
			men					1				
		Candle makers	women					1			}	8
		children						1				
			melters					1			}	1
			men			64						
		Hat manufactur- ers and hatters	women			13					}	6
		children				13						
			fullers			1					}	1
			workmen			6						
Crock'ry & china manufacturers	men					6	}	1				
women				1								
	workmen					1	}	1				
Lamp-black makers	women											
Pearl makers	men				2		}	3				
	women				1							
Makers of chemi- cal products	men						4	}	9			
women							4					
	children						1	}	1			
Pencil makers	women				1							
	men						13	}	22			
Apothecaries	women						5					
	children						2	}	21			
	students						2					
Sugar refiners	men				20			}				
	workmen				1							

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.							
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED						TOTAL.	
			WELL SHELTERED.					Professions that vitiate the air breathed by the operator.		
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lums	In open air.	In damp places; on the river; or making daily use of water.			
3d CLASS.—Mechanical Professions.— <i>Continued.</i>	In products belonging to the chemical arts.— <i>Continued.</i>	Saltpetre makers { men						8	10	
		{ women			1					
		{ children			1				1	
		Match sulphurers { women					31	1		
		Dyers, scourers, { men					7		39	
		and dressers { women					1			
		{ children							1	
		Tile makers { men			1					
		Varnishers { men						1	5	
		{ women						3		
	{ children						1			
	Glass blowers { men					1		1	1	
	Vinegar makers { men							1		
	{ women							2	4	
	{ assistants							1		
	In products belonging to the physical arts.	Tuners { men				1				1
		Spectacle or ope- { men			6					
		ra glass makers, { women			2				9	
		opticians { children			1					
		Bellows makers { men			1				4	
		{ women			1					
		{ children			2				11	
		Musical instru- { men			8					
		ment makers { women			2					
		{ children			1				15	
		Fumists { men			14					
		{ women			1					
		Lamp makers { men			4				7	
		{ women			2					
		{ assistants			1				16	
		Stove makers { men			12					
		{ women			3					
		Wooden pump { children			1				2	
		makers { men					1			
{ women				1						

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.										
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED						TOTAL.				
			WELL SHELTERED.			In open air.	In damp places; on the river; or making daily use of water.	Professions that vitiate the air breathed by the operator.					
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lumns.								
3d Class.—Mechanical Professions.—Continued.	In products belonging to the economical arts.	Starchers	{	men			1			485	{	4	
		women			1			3					
		children			2				533				
		Bandage makers	{	women			3					126	{
		Clothes washers	{	men,			23				101		
		women						28					
		children				4			19				
		ironers	{	men			21					65	{
		Bakers	{	men			93				41		
		women				18			6				
		children				8				2			
		ovenmen	{	carriers			3					2	
		carriers	{	men			4				2		
		Embroiderers	{	men			1			2			
		Brush makers	{	women			98					2	
		children					2				2		
		men					18			2			
		workmen	{	men			3					2	
		children					5				2		
		workmen	{	men			2			2			
Brick floor layers	{	men			13			2					
women					5				2				
children					1					2			
Belt makers	{	men			1			2					
women					1				2				
men					6					2			
Chocolate makers	{	women			2			2					
children					1				2				
men					53					2			
Hair-dressers, wig makers	{	men			8			2					
women					4				2				
children					4					2			
Paper hangers	{	men			4			2					
women					2				2				
men					31					2			
Roof makers	{	women			6			2					
children					2				2				
boys					2					2			

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.						
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					TOTAL.	
			WELL SHELTERED.			In open air.	In damp places; on the river; or making daily use of water.		Professions that vitiate the air breathed by the operator.
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lums.				
3d Class.—Mechanical Professions.—Continued.	In products belonging to the economical arts.—Continued.	Confectioners { men women drop makers	577			2 2 1			5
		Dress makers { women children seam- stresses			14			665	
		Fan makers { women children workmen		74		3 1 1			
		Lace makers { men women			1 2				3
		Blouse makers { women men			1 4			1	
		Hosiers { women workmen darners netters			6 4 50 3			67	
		Purse makers { men women			1 3				1
		Suspender and garter makers { men women children			11 3 1				17
		Bird cage makers { men women			5 4			10	
		Paste box makers { children men women			1 2 5			8	
		Cap makers { children men women			1 4 6			10	
		Slipper and sock makers { men women			15 6			21	
		Blanket makers { men women workmen			2 1 1			4	

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.						
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					Professions that vitiate the air breathed by the operator.	TOTAL.
			WELL SHELTERED.			In damp places; on the river; or making daily use of water.			
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lumns.		In open air.		
3d Class.—Mechanical Professions.—Continued.	In products belonging to the economical arts.—Continued.	Blonde lace mak- ers { men women d. work'rs cutters menders			1 2 24 1 2			{	30
		Glove makers { men women children			4 21 3				
		Gauze makers { women children jour'men			2 2 20				
		Toy makers { men women			4 2				
		Shuttle makers { men			1				
		Dressing-box makers { men			1				
		Wafer makers { workmen bakers			2 1				
		Gingerbread makers { men women			2 2				
		Umbrella makers { men women men women			5 1 9 3				
		Comb makers { children polishers cutters			1 7 8				
		Pin-cushion do { women			1				
		Pocket-book do { men			1				
		Night lamp do { men women			1 2				
		Smelling-bot. do { men			3				
		Calico printers { men			3				
		Milliners { women children			98 1				
		Fancy dress arti- cles { women			10				

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.						
Systematic classification of the Professions		DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					TOTAL.	
CLASSES.	DIVISIONS.		WELL SHELTERED.				Professions that vitiate the air breathed by the operator.		
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lumns	In open air.			In damp places; on the river; or making daily use of water.
3d CLASS.—Mechanical Professions.—Continued.	In products belonging to the economical arts.—Continued.	Masons	men				317		351
		women				19			
		children				15			
		Mattress makers	men				9		80
		women				36			
		children				6			
		earlers				26			
		combers				3			
		Perfumers	men					2	6
		women					2		
		children					1		
		assistants					1		
		Fringe makers	men					28	70
		women					18		
		children					14		
		girls					10		
		Pastry cooks	men					19	30
		women					11		
		men							
		House painters	women					15	69
		children					4		
		men							
		Coach painters	women					1	9
		children					2		
		men					8		
		Glass polishers	women					3	14
		children					3		
men					2				
Pewterers	women					1	3		
men					9				
Earthenware	women					2			
	children					1	12		
	men					23			
Upholsterers	women					12			
	children					2	37		
Vermicelli mak- ers	men					5			
women						1			



PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA						
			Classified according to the condition in which the deceased had been placed by the professions exercised by them.						
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					TOTAL.	
			WELL SHELTERED.			In open air.	In damp places; on the river; or making daily use of water.		Professions that vitiate the air breathed by the operator.
			Very sedentary.	Near the sick.	Other than those of the two preceding columns.				
3d Class.—Mechanical Professions.—Continued.	Economical arts.—Continued.	Tailors { men women children p. makers vest do stitchers	171 39 18 3		53 21			305	
		Coopers { men women children			9 5	42		56	
In mixed matters.		Harness makers { men women children			4 2 2			8	
		Button makers { men women children			16 5 3			25	
		Coach makers { men women children			2 2 3			7	
		Skein winders { men women children			24 8 1			33	
		Makers without any other designation { men women children men women children cashmere shawls daubers shearers cutters spinners weavers twisters shavers			5 1 1 4 6 7 2 8 1 6 8 84 45 1 1			7	
		Weavers { men women children cashmere shawls daubers shearers cutters spinners weavers twisters shavers			4 6 7 2 8 1 6 8 84 45 1 1			173	



PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.						
Systematic classification of the Professions.		DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					TOTAL.	
CLASSES.	DIVISIONS.		WELL SHELTERED.				Professions that vitiate the air breathed by the operator.		
			Very sedentary.	Near the sick.	Other than those of the two preceding col- umns.	In open air.			In damp places; on the river; or making daily use of water.
3d Class.—Mechanical Professions.—Continued.	In mixed matters.—Continued.	Color makers { men women grinders						2 1 11	14
		Sheath makers { men women			2 1				3
		Trimmers { children			1				1
		Machinists in theatres { men stageboys			2 1				3
		Manufacturers { men foremen			1 2				3
		Mechanicians { men women children			23 10 1				34
		Saddlers { men women children			27 5 4				36
		Inlaid work mak- ers { men women children			25 4 4				36
		mother-of-pearl workers			3				
		Wood turners { men women children			19 6 2				27
		Wire-cloth mak- ers { men			2				2
	In products of the fine arts.	Chasers { men women children			16 5 1				22
		Print colorers { women			3				3
		Wall paper mak- ers { men women children			5 6 2				21
printers					6				
drawers					2				
Flower makers { women children				17 4				21	

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.								
Systematic classification of the Professions.			PROFESSIONS EXERCISED								
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	WELL SHELTERED.			In open air.	In damp places; on the river; or making daily use of water.	Professions that vitiate the air breathed by the operator.	TOTAL.		
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lumns.						
3d CLASS.—Mechanical Professions.— <i>Continued.</i>	In products of the fine arts.— <i>Continued.</i>	Engravers { men			30			}	42		
		{ women			7						
		{ children			5						
			men			114			}	194	
			women			28					
			children			16					
		Typographical	pressmen			1					
		printers	stitchers			12					
			compos.			17					
			folders			2			}		
			overseers			4					
		Lithographers	men			1					
			women			1			}	2	
		Marble cutters	men				25				
	women			8							
	children			1			}	34			
Plaster moulders	men			2							
	men			2					}	2	
Bookbinders	men			15							
	women			17							
	children			2			}	34			
Glass cutters and	men			2							
engravers	women			2					}	4	
4th CLASS.—Professions on wages.		Bill posters	men				2				2
		Taper lighters	women			2					2
		Lantern do	men				8		}	9	
			women				1				
			men				29		}	37	
		Street sweepers	women				7				
			children			1			}	4	
		Mountebanks,	men				3				
		jugglers	women				1				
		Boatmen, marin-ers	men					19	}	28	
			women			6					
			children			3					
		Coalmen	men				45		}	74	
			women			23					
	children			6							

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.							
Systematic classification of the Professions		DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED						TOTAL.	
CLASSES.	DIVISIONS.		WELL SHELTERED.				In damp places; on the river; or making daily use of water.	Professions that vitiate the air breathed by the operator.		
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lumns.	In open air.				
4th Class.—Professions on wages.		Singers	men				1		}	3
			women				2			
		Drovers, wild-beast drivers	men						2	2
		Cartmen	men				43		}	45
			women		2					
		Firemen	men		4				6	
			women		2					
		Rag pickers	men				28		}	62
			women				31			
			children		3					
		Coach drivers	men				114		}	140
			women		16					
			children		10					
		Public porters	men				163		}	194
			women		22					
			children		9					
		Messengers	men				2		}	4
		women				2				
	Public criers	men				4		}	4	
	Cooks	men			63			}	295	
		women			231					
		children			1					
	Wood stevedores	men					2	}	3	
		women			1					
	Wine do	men					5	}	6	
		women			1					
	Servants	men			125			}	616	
		women			483					
		children			8					
	Horse killers	women						1	1	
	Canal lock keepers	men					1		1	
		men	15					}	17	
	Penmen, copyists	women			1					
		children			1					
	Grooms	men			1				1	

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.						
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					Professions that vitiate the air breathed by the operator.	TOTAL.
			WELL SHELTERED.			In damp places; on the river; or making daily use of water.			
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lumns.		In open air.		
4th Class.—Professions on wages.		Sewer cleaners men						4	4
		Market porters { men			14		26	}	48
		{ children			8				
		Postmen { men					7	}	10
		{ women			3				
		Mowers men					2		2
		Prostitutes women			2				2
		Grave-diggers men						1	1
		Floor polishers men			18				18
		Bath attendants { men						2	}
		{ women					2	2	
		{ children			2				6
		Office servants { men			12			}	15
		{ women			3				
		{ men			13				}
		Store porters { women			3			18	
		{ children			2				}
		Children's nurses women			29			29	
		Sick nurses { women		75				}	77
		{ children			2				
		Mill keepers men						3	3
		Market keepers { men					2	}	8
		{ women					6		
		{ men			11			}	25
		Day workers { women			12				
		{ children			2				
	{ men		19					}	
	Hospital nurses { women		18				38		
	{ children			1				}	
	Organ players { men				4		5		
	{ women			1				}	
	Laborers { men				479		1171		
	{ women				682			}	
	{ children			10					
	Newspaper car-riers { men				2		}	3	
	{ women				1				

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.						
CLASSES.	DIVISIONS.	DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					Professions that vitiate the air breathed by the operator.	TOTAL.
			WELL SHELTERED.				In damp places; on the river; or making daily use of water.		
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lums.	In open air.			
4th CLASS.—Professions on wages.—Continued.		Hotel keepers { men			4				7
		{ women			2				
		{ children			1				
		Wet nurses { women			7				
		Workmen with- { men			90				379
		out designation { women			280				
		{ children			9				
		Pavers { men						32	37
		{ women			4				
		{ children			1				
		Fishermen { men					2		2
		{ women					73		
		Water carriers { children			1		15		
		Sea-fish carriers { men						2	
		{ women						3	6
		{ children			1				
		Door keepers { men					210		
		{ women					251		
		{ children					35		
		Post-boys { men						4	7
	{ women			3					
	Chimney sweeps { men						2	2	
	Crock'ry menders { men					5			
	Knife grinders { children			1		8			9
	Freight carriers { men					1			
	{ women			1				2	
	Wood sawers { men					4			
	{ women			1					5
	Police officers { men					9			
	{ children			2				11	
	Bell-ringers { men			1					
	Cellar-diggers { men					49			1
	{ women			3					
	{ children			2				54	
	Sand-diggers { men								
							2		

PROFESSIONS.			NUMBER OF DEATHS BY CHOLERA, Classified according to the condition in which the deceased had been placed by the professions exercised by them.						
Systematic classification of the Professions.		DESIGNATION OF PROFESSIONS.	PROFESSIONS EXERCISED					Professions that vitiate the air breathed by the operator.	TOTAL.
CLASSES.	DIVISIONS.		WELL SHELTERED.				In damp places; on the river; or making daily use of water.		
			Very sedentary.	Near the sick.	Other than those of the two preceding co- lums.	In open air.			
5th CLASS.—Military Pro- fession.		Night scavengers men						7	7
		Wagon drivers { men				11		}	13
		{ women			1				
		{ children			1				
		Military, inactive { men				676		}	699
		{ women			7				
		do active { children			16			}	237
		{ men			236				
		{ women			1			}	70
		Officers { men			66				
		{ women			3			}	4
		{ children			1				
		Superior officers { men			2			}	24
		{ women			2				
		General officers { men			21			}	
		{ women			3				

## RECAPITULATION OF DEATHS.

DESIGNATIONS OF CLASSES AND DIVISIONS.						
1st.	2d.	3d.	4th.	5th.	Professions unknown.	GENERAL TOTAL.
Liberal.	Commercial.	Mechanical.	On wages.	Military.		
	Bankers, mer- chants, travel- ling clerks, 67					
	In metals, 8	In metals, 746				
	In minerals, 6	In minerals, 99				
	In vegetables, 184	In vegetables, 184				
	In extracts from vegetables, 456	In extracts from vegetables, 715				
	In animals, 144	In animals, 22				
	In products from animals, 45	In products from animals, 548				
2,073	In products from chemical arts, 33	In products from chemical arts, 298	4,180	1,034	2,861	
	In products from physical arts, 65	In products from physical arts, 65				
	In products from economi- cal arts, 547	In products from economi- cal arts, 3055				
	In mixed mat- ters, 398	In mixed mat- ters, 412				
	In products from fine arts, 27	In products from fine arts 379				
2,073	1,731	6,523	4,180	1,034	2,861	18,402
	14,507			1,034	2,861	18,402

## RECAPITULATION

ACCORDING TO THE CONDITION IN WHICH THE PROFESSIONS WERE EXERCISED.

DESIGNATION OF THE CONDITIONS.											
PROFESSIONS											
Included in the four first classes											
EXERCISED											
SHELTERED FROM THE BAD WEATHER.											
Particularly sedentary.											
Near the sick.											
Other than those of the two preceding columns.											
In open air.											
In damp places; on the river; or making daily use of water.											
Professions that vitiate the air breathed by the operator.											
Total of the four first classes of commercial professions.											
5th Class.—Military profession.											
Remained unknown.											
TOTAL.											
Number of deaths belonging to each profession.											
TOTAL.											



## TO THE AMERICAN PUBLIC.

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WITHOUT attempting to draw any additional inference from the laborious Report that precedes, the translator would take the liberty to call particular attention to a fact, which cannot fail to carry to every mind the conviction, that there is nothing in the nature of the Cholera calculated to deter any citizen from affording to patients all the assistance in his power, and thus to remain true to the duties of a good Christian.

The total number of deaths by Cholera in Paris has been 18,402, which may probably be considered as one-third of the persons attacked, or 55,206 in all.

The number of persons whose duties or professions called them to nurse or prescribe for the sick, and who died in these occupations, was only 164, and but *one* grave-digger, in the space of six months.

Consequently, it is this class of persons that has experienced the smallest loss, by an epidemic that some people dread as contagious.

P. B.









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